

IMWA 2016 Annual Conference

Mining meets Water – Conflicts and Solutions

July 11-15, 2016 | KUBUS Leipzig | Germany



Modeling Hydrodynamics and Water Quality of Pit Lakes

A Hands-on Introduction to the Open Source Software PITLAKQ

Date and Time

Date: 11. July 2016

Time: 9:00 – 17:00

Workshop Content

Modeling pit lakes is a complex task. The open source software PITLAKQ (<http://www.pitlakq.com/>) allows one to model hydrodynamic processes in pit lakes including temperature stratification. Furthermore, transport of constituents and a variety of chemical and biological reactions can be modeled. PITLAKQ combines the abilities of CE-QUAL-W2 (<http://www.cee.pdx.edu/w2/>) and PHREEQC (http://wwwbrr.cr.usgs.gov/projects/GWC_coupled).

It provides new features such as distributed groundwater exchange, treatment of the lake water with chemicals, and accounting for the impact of bank erosion on lake water quality.

This one-day workshop introduces PITLAKQ with a hands-on tutorial of setting up and running models. It covers:

- Setting up and running a hydrodynamic model
- Interpreting and presenting hydrodynamic results
- Setting up and running a water quality model
- Interpreting and presenting water quality results
- Varying the water quality processes

PITLAKQ solves complex problems and offers many more features than can be covered in the workshop. The presenter will be glad to answer questions that go beyond the content described above. Each participant will receive a comprehensive course handout and the PITLAKQ software. After the course, participants will be able to set up and run PITLAKQ models.

Instructor

Dr. Mike Müller is the author of PITLAKQ and has been using this software to model a variety of pit lakes. He is CEO of hydrocomputing (<http://www.hydrocomputing.com/>) and has many years of modeling experience with a variety of hydrological and water quality models.

What is Required of Participants

Participants need to be familiar with the topic of pit lakes and their water quality. Basic hydro-geo-chemical knowledge is assumed. Preferably, participants should have modeling experience with CE-QUAL-W2, PHREEQC or comparable models. They also need to have basic knowledge of important pit lake processes. Solid PC handling abilities are necessary.

Participants should bring their own laptop computer with a Windows operating system. PITLAKQ also runs on Linux and Mac OS X, but the setup is currently more complicated. You will receive a copy of the modeling software at the beginning of the workshop. You can also rent a laptop for the workshop. Please contact the instructor (mmueller@hydrocomputing.com) for details.

Fees

Payment received	Full		Student ¹	
	by June 30, 2016	after June 30, 2016	by June 30, 2016	after June 30, 2016
Price per participant incl. VAT (19%)	330 €	360 €	165 €	180 €
Price per participant excl. VAT (19%)	277.31 €	302.52 €	138.66 €	151.26 €

¹ Full time student at degree-granting institution. Maximum age 35 years. Proof of university enrollment required upon registration. The organizers reserves the right to accept the student status.

The fees include two coffee breaks with hot and cold drinks and refreshments as well as a lunch meal in the nearby cafeteria of the research center.

The workshop can be booked independently from a participation at IMWA conference.

Registration

Please register at:

http://www.hydrocomputing.com/pitlakq/imwa2016_pitlakq_workshop.html

Cancellation Policy

Registrations can be canceled. The following refunds will be given:

Canceled by	Refund
March 31, 2016	100 %
April 30, 2016	80 %
Mai 31, 2016	50 %
June 30, 2016	30 %
after June 30, 2016	0 %

A replacement participant can be named at any time without an additional fee. If the student rate was paid and the replacement participant is not eligible for this rate, the difference to the full rate has to be paid.

Number of Participants

The minimum number of participants is 3. The maximum number of participants is 18.

Questions

Please contact Dr. Mike Müller mmueller@hydrocomputing.com for questions about the workshop content or organization.

