

OBJECTIVES

Based on the experience of 9 successful events, we have decided that the 10th International Shortcourse shall be focused more on

Advanced Rock Engineering Issues.

We will cover fundamentals, analyses, tunnels, dams and slopes. Emphasis will be placed on case histories, design issues, exercises and discussions. The lecture notes, with a total volume of approx. 600 pages, will be distributed as paper copy and on CD Rom at the beginning of the course. They go along with a digital version of our two WBI-Print volumes no. 5 and 6.

CONTENTS

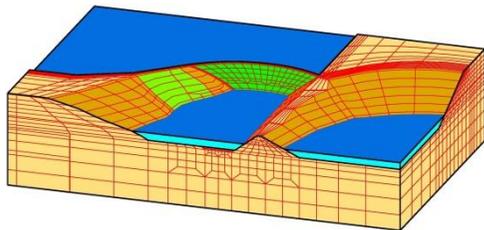
Part 1 - Fundamentals

Modelling:	Stresses, strains, permeability
Investigation:	Mapping, drilling, adits, etc.
Testing:	Laboratory and in situ
Exercises:	Assessment of rock mass



Part 2 - Analyses

Wedge Type:	Slopes, tunnel walls, dam abutments
Finite Elements:	Computer programs FEST03 and HYD03 Evaluation of section, boundary conditions Mesh generation and input data Representation of results, useful for design
Exercises:	Tunnels, slopes, dams



Part 3 - Tunnels

NATM:	Excavation, support and lining
TBM:	Type of TBM, cutting tools, face support, segmental lining
Design Concept:	Engineering versus classification
Case Studies:	NATM and TBM
Exercises:	Analysis and design



Part 4 - Dam foundation

Investigation:	Drillings, Lugeon tests, adits
Analyses:	Dead weight, seepage, earthquake
Grouting, Drainage:	Design
Monitoring:	During and post construction
Case Studies, Exercises:	Old masonry dam, RCC dam



Part 5 - Slopes

Investigation:	Drillings, piezometers
Analyses:	Wedge type, finite elements
Stabilization:	Retaining structures, anchors, shotcrete, drainage
Case Studies:	Big rock slide
Exercises:	Back analysis of a slide



WHO SHOULD ATTEND

Civil, Mining and Geo-engineers as well as Geologists who are involved in rock engineering will benefit from the Shortcourse. Also students of the corresponding fields are welcome.

COURSE LANGUAGE

The course will be held in English language. Some speakers also have command of the Spanish language so that translation is possible in case of necessity.

TIME SCHEDULE (every day)

9.00 - 10.30	Lectures
10.30 - 11.00	Coffee Break
11.00 - 12.30	Lectures
12.30 - 13.30	Lunch
13.30 - 15.00	Lectures
15.00 - 15.30	Coffee Break
15.30 - 17.00	Lectures

1st day: joint dinner

REGISTRATION CONDITIONS

Registration

With overleaf registration form or at www.wbionline.de.

Registration deadline

August 31, 2014.

Number of attendants

The number of attendants is limited to max. 30 persons. Acceptance will be on a first come first serve basis.

Course fee

1.000,00 € plus 19 % VAT, i.e. total fee 1.190,00 €.

Includes the lecture notes, lunch and refreshments for morning and afternoon tea/coffee breaks as well as the joint dinner.

Payment modalities

Due date for the payment of the fee: August 31, 2014.

If the course is cancelled, then the full Shortcourse fee will be refunded. If you step back from your registration after August 31, 2014, no refund will be given. Non-arrivals at the course will be liable to pay the full course fee and no refund will be given. However, participation in the next course will be allowed.

Payment options: Wire transfer or cashier's check. Necessary data will be provided upon receiving completed registration form.

REGISTRATION FORM

Name: _____

Title: _____

Organization: _____

Street: _____

ZIP-Code: _____

City: _____

Country: _____

Phone: _____

Fax: _____

Email: _____

Registration fee: 1.190,00 € (incl.VAT)

I have read and agree to the conditions of entry as stipulated in the announcement (brochure/homepage WBI).

Place, Date: _____

Signature: _____

SPEAKERS

Prof. Dr.-Ing. Dr.-Ing. E.h. Walter Wittke



World-wide known expert in rock engineering. More than 50 years of experience in rock engineering. Past President of the ISRM. Past President of the German Geotechnical Society. Professor emerytus, Technical University of Aachen. CEO of WBI Company.

Dr.-Ing. Claus Erichsen



Acknowledged expert in rock engineering. More than 30 years of experience in rock engineering. Past Vice President of the ISRM. Board member of the German Geotechnical Society. Member of the management of WBI Company.

Dr.-Ing. Bettina Wittke-Schmitt



Acknowledged expert in rock engineering. 20 years of experience in rock engineering. Member of the management of WBI Company.

Dr.-Ing. Martin Wittke



Acknowledged expert in rock engineering. 13 years of experience in rock engineering. Member of the management of WBI Company.

SHORTCOURSE VENUE

City of Weinheim (Bergstr.) near Heidelberg
Headquarters of WBI GmbH



10TH WBI-INTERNATIONAL SHORTCOURSE

ROCK ENGINEERING BASED ON THE ANISOTROPIC JOINTED ROCK MODEL (AJRM)

– Theory and Practice –

Taught by

**Prof. Dr.-Ing. Walter Wittke
and Partners**

September 17 to 20, 2014

at

WBI Headquarters

**Im Technologiepark 3
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WBI Prof. Dr.-Ing. W. Wittke Beratende Ingenieure
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Worldwide Engineering