In 1979 the renowned Grouting Fundamentals & Current Practice short course was founded in the USA, and since then has provided unique professional training and education to thousands of grouting professionals worldwide. In response to industry interest, the course organizers are pleased to now offer this exceptional training opportunity in Munich, Germany. The 1st European course edition includes a faculty of 21 experts from 10 countries, providing exceptional breadth and expertise concerning grouting fundamentals and international best practices.

This unique 4-day course covers pressure grouting as a method to improve geotechnical properties of soils and rock masses, with special focus on mechanisms, theories, and practical applications of grouting to ground densification and strengthening, permeability reduction and groundwater cutoffs. The curriculum has been developed specifically for Owners, Regulators, Consultants and Contractors having interest in the applications of pressure grouting to a broad array of geo-structural construction and remediation techniques.

Major course topics include:

- grout rheology
- cementitious and chemical grouting procedures
- overburden and rock drilling methods
- optimizing grouting during construction
- jet grouting
- deep soil mixing
- composite seepage barriers
- compaction grouting
- rock anchors and SBMA design
- micropiles
- compensation grouting
- permeation grouting
- GIN and RTGC in rock grouting
- amenability theory
- pre-excavation grouting for rock tunnels
- concrete repair

Bundeswehr University Munich

Room 2004

Location

Werner-Heisenberg-Weg 39 85577 Neubiberg

Fee

Early Registration € 1.990 (until 1. 8. 2019) **Regular** € 2.390

 Partners
 € 1.690

 Student
 € 1.195

 One-Day Ticket
 € 800

Registration

Register online:

www.grouting-fundamentals.com

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This professional training event is organized by the Institute of Applied Geosciences at the Graz University of Technology together with the puplishing house Ernst & Sohn, in cooperation with the Institute of Soil Mechanics and Foundation Engineering at the Bundeswehr University in Munich and the Bavarian Engineering Chamber – Construction.







front image: © Scott Kieffer





Tools for Optimizing Rock Mass Grouting

Grouting Fundamentals & Current Practice

40th Annual Short Course 1st European Edition

16.-19. September 2019 · Munich



www.grouting-fundamentals.com

Monday (16.9.)

8:00-8:10

18:00-21:00

Material Properties and Applications

Welcome/Opening Remarks

Dean and Professor Dr. Thomas Apel -

	Dealt and Froressor Dr. Friomas Aper
	Bundeswehr University Munich (D)
	Dr. Scott Kieffer – TU Graz (A)
8:10-9:40	Introduction and Overview
	Clif Kettle – Clif Kettle Consulting (UK)
9:50-10:50	Grout Types and Rheology
	Christophe Justino - Soletanche Bachy (F)
11:00-12:00	Cementitious Grout Materials
	& Mix Design
	Christophe Justino - Soletanche Bachy (F)
	Lunch Break
13:00-14:00	Chemical Grouting Basics and
	Applications in Underground
	Construction
	Dr. Robert Penczek – DSI Underground (P)
14:10-15:10	Traditional Geotechnical Applications
	of Chemical Grouting
	Götz Tintelnot – TPH Waterproofing
	Systems (D)
15:20-16:10	Chemical Grouting for Concrete Repair
	and Rehabilitation
	Haktan Sahin – Sika AG (CH)
16:20-17:00	Penetrability of Silicate and Acrylate
	Gels: New Approaches & Design Concepts
	Dr. Conrad Boley, Yashar Forouzandeh,
	Paul Pratter, Simone Wagner –
	Bundeswehr University Munich (D)

Icebreaker Reception

Tuesday (17.9.)

Rock Grouting

8:30-9:20

Dr. Scott Kieffer – TU Graz (A)
Cement Grouting in Rock -
Overview and Applications
Trent Dreese – Gannett Fleming (USA)
The GIN Concept of Rock Grouting
Maren Katterbach –
Lombardi Engineering (CH)
Lunch Break
Real Time Grouting Control (RTGC)
Mikael Creutz – Golder AB (S)
Dam Remediation: North American
Case Histories
Trent Dreese – Gannett Fleming (USA)
Rock Anchors for Dams
Dr. Donald Bruce – Geosystems L.P. (USA)
High Capacity Anchors in Soils
& Weak Rock (SBMA)
Dr. Devon Mothersille - SBMA/Geoserve
Global (UK)

Wednesday (18.9.)

Drilling, Specialty Construction Methods

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8:00-8:45	Evolution of Small Hole Drilling Methods
	Dr. Donald Bruce - Geosystems L.P. (USA)
8:55-9:40	Deep Mixing in North America
	Dr. Donald Bruce - Geosystems L.P. (USA)
9:50-10:35	Deep Soil Mixing
	Dr. Clemens Kummerer -
	Keller Grundbau (D)
10:45-11:30	Positive Cut Off Walls for Dams
	Dr. Donald Bruce - Geosystems L.P. (USA)
11:40-12:25	Mosul Dam: Remedial Measures
	and Outlook
	Raffaella Granata – Trevi S.p.A. (I)
12:30-17:00	Hands-On Demonstration of
	Grout Materials and Equipment

Thursday (19.9.)

Soil Grouting, Tunnels

8:00-9:30	Limited Mobility Grouting
	Joe Harris – Hayward Baker (USA)
9:40-11:00	Permeation Grouting of Soils
	Clif Kettle - Clif Kettle Consulting (UK)
11:10-12:30	Compensation Grouting
	Clif Kettle – Clif Kettle Consulting (UK)
	Lunch Break
13:30-14:50	Jet Grouting
	Wolfgang Kühner – Keller Grundbau (D)
15:00-16:00	Pre-Excavation Grouting
	in Rock Tunnels
	Hans-Olav Hognestad – Mapei UTT (N)
16:10-17:00	Post-Excavation Grouting
	in Underground Construction
	Helmut Wannenmacher –
	Implenia Austria (A)