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

Monday (16.9.)
Material Properties and Applications
8:00–8:10 Welcome/Opening Remarks
Dean and Professor Dr. Thomas Apel – 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)
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
Hakan Sahin – Sika AG (CH)
16:20–17:00 Penetrability of Silicate and Acrylate Gels: New Approaches & Design Concepts
Dr. Conrad Boiley, Yashar Forouzandeh, Paul Pratter, Simone Wagner – Bundeswehr University Munich (D)
18:00–21:00 Icebreaker Reception

Tuesday (17.9)
Rock Grouting
8:30–9:20 Tools for Optimizing Rock Mass Grouting
Dr. Scott Kieffer – TU Graz (A)
9:30–10:50 Cement Grouting in Rock – Overview and Applications
Trent Dreese – Gannett Fleming (USA)
11:00–12:00 The GIN Concept of Rock Grouting
Maren Katterbach – Lombardi Engineering (CH)
Lunch Break
13:00–13:50 Real Time Grouting Control (RTGC)
Mikael Creutz – Golder AB (S)
14:00–14:50 Dam Remediation: North American Case Histories
Trent Dreese – Gannett Fleming (USA)
15:00–15:50 Rock Anchors for Dams
Dr. Donald Bruce – Geosystems L.P. (USA)
16:00–17:00 High Capacity Anchors in Soils & Weak Rock (SBMA)
Dr. Devon Mothersille – SBMA/Geoserve Global (UK)

Wednesday (18.9.)
Drilling, Specialty Construction Methods
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 Mosal 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 Hogestad – Mapei UTT (N)
16:10–17:00 Post-Excavation Grouting in Underground Construction
Helmut Wannenmacher – Implemsa Austria (A)