



2018 ANNUAL SHORT COURSE:

Grouting and Ground Improvement

May 14-16, 2018 | Golden, Colorado



Grouting and Ground Improvement is a three-day course that covers engineering, equipment, materials and methods for grouting and ground modification used in civil and geotechnical engineering, underground construction, tunneling and mining.

Don't miss this opportunity for professional development and high-level networking — all while earning CEUs!

This course combines classroom instruction with hands-on labs and demonstrations, providing participants with the opportunity to see grouting and ground improvement field equipment in action!

Course highlights include a field demo day providing participants with the opportunity to see the following grouting techniques in action:

- **COMPACTION GROUTING**
- **CHEMICAL GROUTING**
- **CELLULAR GROUTING**
- **PERMEATION GROUTING**

WHO SHOULD ATTEND?

This course is intended for industry professionals including owners, planners, designers, contractors, consultants and suppliers involved in the design, planning and construction of civil and geotechnical engineering, underground, tunneling and mining projects.

Don't miss this opportunity to network, learn and earn CEUs!

CEUs

Colorado School of Mines will award 2.1 CEUs (continuing education units) upon successful completion of this course.



LOCATION

Colorado School of Mines has a long-standing tradition of hosting world-class short courses on our beautiful campus in scenic Golden, Colorado.

40 minutes/36 miles from Denver International Airport.

INFO AND REGISTRATION

Registration is open now! Space is limited! Early-bird and group discounts are available through March 14, 2018.

COURSE DIRECTORS:

Dr. Ray Henn
Colorado School of Mines/ RW Henn LLC
rhenn@rwhenn.com

Dr. Reza Hedayat
Colorado School of Mines
hedayat@mines.edu

Sponsorships are still available!

Please contact Kelly Hummel, Center for Underground Construction and Tunneling, at khummel@mines.edu or (303) 273-3756 for more information.

GROUTING AND GROUND IMPROVEMENT | TOPICS AND SPEAKERS

MONDAY, MAY 14

Welcome and Introduction, Ray Henn, Colorado School of Mines/RW Henn LLC

Fundamentals of Soil and Rock Mechanics, Reza Hedayat, Colorado School of Mines

Geotechnical Site Investigation, Scott Kibby, Mott MacDonald

Overview of Underground Construction Grouting, Ray Henn, Colorado School of Mines/RW Henn LLC

Compaction Grouting, Tom Szyrakiewicz, GeoStabilization International

Cements and Admixtures, Mark Mudlin, Normet

Drilling and Grouting Equipment, Bill Warfield, Independent Consultant

Permeation and Consolidation Grouting, Brad Crenshaw, GEC Drilling & Grouting

Freezing and Dewatering, Paul Schmall, Moretrench

Jet Grouting, Dennis Boehm, Hayward Baker Inc.

Laboratory Demonstration on Grout Rheology and Cement Testing, Brian Jeppsen, US Grout and Jim Lindsay, BASF

Laboratory Demonstration on Tunnel Backfill, Jeff Williams, KAO Specialties Americas

Reception in the Atrium of Marquez Hall at Colorado School of Mines

TUESDAY, MAY 15

Ground Improvement in Glacial Soils: Seattle Tunneling Experience, Red Robinson, Shannon & Wilson Inc.

Paying for Drilling and Grouting, Alex Varas, AECOM

Risk Evaluation, Bob Goodfellow, Aldea Services

Soil Freezing for Cross Passage Tunnel Construction, Joe Sopko, Moretrench

Compensation Grouting, Dennis Boehm, Hayward Baker Inc.

Chemical Grouting, Acrylate/Acrylamides, Britt Babcock, Avanti International

Cementitious and Acrylamide Grouting, Timothy Myers, Bencor Global, Inc.

Case Histories of Polyurethane Grouts, Scott Anderson, GCP Applied Technologies

Rondout Bypass Tunnel Project Update, Andy Myers, Kiewit

Laboratory Demonstration on Chemical Grout, Britt Babcock, Avanti International & Scott Anderson, GCP Applied Technologies

Laboratory Demonstration on Bi-component/Annulus Backfill Grouting, Phil Antunes, Simem Underground Solutions

Underground Construction Association (UCA) Student Chapter/Industry Mixer

WEDNESDAY, MAY 16

Ground Improvement in Mine Construction, Christine Linden, Frontier-Kemper Constructors Inc.

Grouting for Mine Development, Mark Tilley, Sunshine Silver Mining & Refining Corporation

Dewatering System Installation Methods and Temporary Water Treatment System Design, Nathan Anderson, Griffin Dewatering

Cellular Concrete Use and Application, Stan Peters, Flashfill Services

Presentation of Class Completion Certificates and Closing Remarks, Ray Henn, Colorado School of Mines/RW Henn LLC

Field Demo: Compaction grouting, drilling and grouting equipment, packers, permeation grouting (sand columns), cellular concrete, product demonstrations, instrumentation and more, Bill Warfield, Independent Consultant

Labs and demos will cover compaction grouting, chemical grouting, cellular grouting, permeation grouting and much more!

Thank you sponsors and media partners for the 2017 course!



underground

