

## Banff 2010 Geotechnical Modeling Workshop

*fundamentals, theory and application*

October 4-6 / 7, 2010 – Banff, AB, Canada



### Introduction:

**GEO-SLOPE International Ltd.** invites you to join us in the Canadian Rocky Mountains this fall for our Banff 2010 Geotechnical Modeling workshop.

Surrounded by stunning scenery and removed from the hustle and bustle of the city, Banff is a perfect setting to gather with GEO-SLOPE clients from around the world to learn and fine-tune your numerical modeling skills.

Whether you wish to be eased into the world of numerical modeling, or experiment with new types of analyses, this workshop is designed for all experience levels.

### Format and Outline:

The initial three-day workshop will consist of focused sessions on SLOPE/W, SEEP/W and SIGMA/W. The optional fourth day will offer specialized sessions on our QUAKE/W, TEMP/W and VADOSE/W products. The flexible format of the fourth day also allows those with limited modeling experience to receive additional help and support.

Workshop time will be divided between lectures, hands-on work with the GeoStudio 2007 software, and group problem-solving discussions. Participants will be exposed to a general review of geotechnical theory, as well as appropriate and efficient numerical modeling strategies.

By attending the workshop, you can:

- Immerse yourself in hands-on numerical modeling and sharpen your skills
- Increase your understanding of geotechnical theory and fundamentals
- Collaborate with highly experienced GEO-SLOPE engineers and engineering professionals from around the world

### Comments from Past Participants:

*“Great flexibility in response to the needs of the group and individual”*

*“The workshop gave me a quantum jump in my ability to get more out of the programs”*

*“This workshop decreased my learning curve considerably...it is excellent and a must for any serious GEO-SLOPE software user”*

*“Excellent staff that are sincerely interested in their clients’ concerns”*

### About the Presenters:

The GEO-SLOPE workshop team is a dynamic group of engineers and programmers who have strong presentation skills and many years of experience with geotechnical numerical modeling and program development.



### Registration Details:

Dates and Fees:

**Oct 4-6 (3-day) USD \$1,400**

**Oct 4-7 (4-day) USD \$1,850**

Price includes:

- Full registration
- Accommodation for 3 or 4 nights, depending on dates chosen (*arrival Sunday and check-out on Wednesday or Thursday*)
- Breakfasts, lunches, and light refreshments

*Please note that evening meal costs are not included in the registration fee.*

Venue:

**Delta Banff Royal Canadian Lodge**  
459 Banff Avenue, Banff, AB, Canada  
Tel: +1 800 661 1379 toll-free or  
Tel: +1 403 762 3307  
[www.deltabanff.com](http://www.deltabanff.com)

**To register, please visit:**

[www.geo-slope.com/training](http://www.geo-slope.com/training)

*Participants must bring their own laptop computer. Laptop computer rentals can be arranged at additional cost.*

*- Tentative Agenda on Reverse –*

Travel Information:

The town of Banff is a 90 minute scenic drive from Calgary. From the Calgary International Airport, a shuttle bus will transport you directly to the Delta Banff in less than two hours. Additional travel information will be provided to you once your registration is confirmed.

*Cancellations or substitutions will be accepted until September 13th, 2010. After this date only substitutions are possible.*

**Banff 2010 Workshop Tentative Agenda** (subject to change):

Monday, October 4	Tuesday, October 5	Wednesday, October 6	(optional) Thursday, October 7
<b>Morning:</b>			
<p><b>SLOPE/W I</b> Basic theory and features</p> <ul style="list-style-type: none"> <li>▪ Methods of analysis</li> <li>▪ Geometry</li> <li>▪ Material properties</li> <li>▪ Slip surface options</li> <li>▪ Pore-water pressures</li> <li>▪ Line loads</li> </ul>	<p><b>SLOPE/W II</b> Advanced theory and features</p> <ul style="list-style-type: none"> <li>▪ Reinforcement fundamentals</li> <li>▪ Finite element stresses</li> <li>▪ Seismic loads</li> <li>▪ Probability and sensitivity</li> </ul>	<p><b>SEEP/W II</b> Advanced theory and features</p> <ul style="list-style-type: none"> <li>▪ Transient theory and features</li> <li>▪ Transient boundary conditions</li> <li>▪ Time steps</li> <li>▪ Seepage sensitivity</li> <li>▪ Integration of transient SEEP/W pwp in SLOPE/W</li> </ul>	<p><b>QUAKE/W I *</b></p> <ul style="list-style-type: none"> <li>▪ Introduction to dynamic analysis</li> <li>▪ Using QUAKE/W results in SLOPE/W to estimate permanent deformation</li> </ul> <hr/> <p><b>VADOSE/W *</b></p> <ul style="list-style-type: none"> <li>▪ Introduction to climate coupled seepage analyses</li> <li>▪ Application of engineered soil covers</li> </ul>
<b>Afternoon:</b>			
<p><b>SEEP/W I</b> Basic theory and features</p> <ul style="list-style-type: none"> <li>▪ Steady-state analysis</li> <li>▪ Darcy's Law</li> <li>▪ Boundary conditions</li> <li>▪ K-functions, VWC functions</li> <li>▪ Geometry</li> <li>▪ Finite element meshing</li> <li>▪ Integration of steady-state SEEP/W pwp in SLOPE/W</li> </ul>	<p><b>SIGMA/W I</b> Basic theory and features</p> <ul style="list-style-type: none"> <li>▪ Stress and deformation</li> <li>▪ Soil strength models</li> <li>▪ Staged construction</li> <li>▪ Slip elements</li> <li>▪ Beams and bars</li> <li>▪ Integration of finite element stresses in SLOPE/W</li> </ul>	<p><b>SIGMA/W II</b> Advanced theory and features</p> <ul style="list-style-type: none"> <li>▪ Consolidation</li> <li>▪ Volume change</li> <li>▪ Wick drains</li> <li>▪ Soft soils construction</li> <li>▪ Heave and settlement due to water addition or removal</li> </ul>	<p><b>QUAKE/W II *</b></p> <ul style="list-style-type: none"> <li>▪ Liquefaction assessment using QUAKE/W, SIGMA/W and SLOPE/W</li> </ul> <hr/> <p><b>TEMP/W *</b></p> <ul style="list-style-type: none"> <li>▪ Introduction to thermal geotechnical analyses, artificial ground freezing, permafrost degradation</li> </ul>

\* 'Study Hall' will run concurrently with sessions on the fourth day. This is an opportunity to work on pre-created lessons or your own models with guidance and support from GEO-SLOPE engineers, subject to their availability.

You are welcome to contact us at:



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