



Enhancing Reliability of Groundwater Flow and Contaminant Fate and Transport Modeling by Incorporating Regional Watershed Modeling

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Traditional groundwater flow and contaminant fate and transport modeling relied heavily upon aquifer transmissivities, among many other factors. Field values for transmissivities vary up to orders of magnitude in fractured rock formations, according to a leading USGS expert in hydrogeology. The outputs of traditional modeling approaches, therefore, exhibited a broad sensitivity range as a result of these model input parameters.

In order to improve the usefulness of the model, it is possible to utilize parameters developed via regional watershed modeling that are not subject to wide range of uncertainty to avoid the uncertainty associated with aquifer transmissivity values. This approach has been successfully used to support the evaluation of groundwater flow in over 100 models in various geologic settings, including fractured rock, karst flow, and heterogeneous terrain.

Applications of this technology have become increasingly cost-effective due to rapid advances in GIS and DEM information that are available online in recent years. It can be applied in the planning stages of hydrogeologic investigations to derive aquifer properties that traditionally require extensive field testing.

Mr. He will present examples of models completed as well as 3-dimensional and animated depictions of fate and transport modeling results.

Henry Y. He is a Senior Consultant with Environmental Resources Management. Mr. He has a Master Degree of Science in Civil Engineering and over 20 years of professional experience in groundwater flow and contaminant fate and transport modeling throughout the United States and internationally and has developed 300 models for environmental engineering, water resources management, and geotechnical engineering sites.

Contact Information

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FUTURE SPEAKERS:

- March 20, 2008 - John Sohl, Columbia Technologies, Inc. (Baltimore, MD) – *Application of MIPs® and UVOST® to Delineate Subsurface Contamination and 3-D Depictions of Field Data*
- April 17, 2008 - Don Bussey, Environmental Protection Agency Environmental Response Team (Las Vegas, NV) – *EPA's Responses to Columbia Shuttle Incident and Hurricane Katrina*
- May 15, 2008 - Andrew Coleman, Ph.D., Electric Power Research Institute (Palo Alto, CA) – *Current Manufactured Gas Plant Site Remediation Technologies or Carbon Sequestration from the Perspective of a Geologist*

MEETING LOGISTICS:

The meeting will take place on **Thursday, February 21, 2008** at the Glen Loch Restaurant in Jamesville. Directions are below.

A social hour will start at 5:30 pm and will be followed by a dinner starting at 6:30 p.m. The presentation by Mr. He will begin at about 7:30 p.m.

The cost of the dinner/meeting is:

- Members – Dinner & Meeting - \$25
- Members – Meeting only - \$5

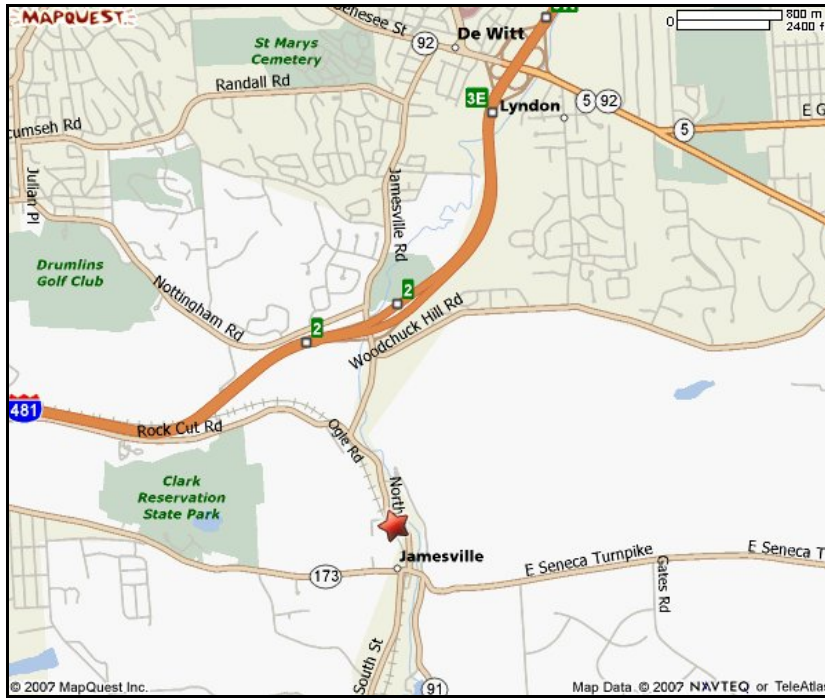
- Nonmembers – Dinner & Meeting \$30
- Nonmembers – Meeting only \$10

- Students – Dinner & Meeting \$15 (CNYAPG pays \$10 per student for dinner)
- Students – Meeting only \$5

- CNYAPG will sponsor first 4 students for Dinner & Meeting

Please RSVP by Wednesday, February 20th Noon to Annette at Parratt-Wolff, info@pwinc.com or (315) 437-1429.

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**Directions to the Glen Loch Restaurant – www.glenloch.net
4626 North Street, Jamesville, NY 13078. 315-469-6969**

Take Route 481 to Exit 2 in Jamesville. Go South on Jamesville Road (up the hill) until you come to a three way intersection. Bear left onto North Street. Continue down this road, and you will see the Glen Loch on your left.