



GROUNDWATER RESOURCES ASSOCIATION
O F C A L I F O R N I A

The Groundwater Resources Association of California Proudly Presents:

The 5th Symposium in its Water Resources Series

**“Applications of Optimization Techniques to
Groundwater Projects”**

Short-Course and Symposium

**October 15-16, 2008
Radisson Hotel – Sacramento, California**

PROGRAM AGENDA

(as of 10/2/08)

Day 1 – Wednesday, October 15, 2008

- 12:00 pm** **Registration**
- 1:00-5:00** **Short Course: Optimization Techniques and Applications to
Groundwater Projects**
- Instructors: Rob Gailey, Consulting Hydrogeologist
 Chin Man Mok, AMEC Geomatrix
 Tracy Nishikawa, United States Geological Survey
 Eric Reichard, United States Geological Survey
- 5:00-6:30** **Poster Session and Reception**

Day 2 – Thursday, October 16, 2008

- 7:30 am** **Registration/Continental Breakfast**
- 8:30 – 8:50** **Symposium Opening Remarks**
 Rob Gailey, Symposium Co-Chair, Consulting Hydrogeologist

General Session 1: Plume Capture and Concentration Management

Moderator: Alaa Aly, Intera Inc.

- 8:55 – 9:20 *Demonstration Project for Application of Transport-Based Pumping Optimization Codes at Three Department of Defense Sites*
Robert Greenwald, GeoTrans Inc.
- 9:20 – 9:45 *Optimal Design of a Pump and Treat System for Capture of a TCE Plume, Norton Air Force Base, California*
Alaa Aly, INTERA Inc.
- 9:45 – 10:10 *Comparison of Gradient and Particle-Tracking Optimization Schemes for Groundwater Containment*
Alan Laase, Hydrologic Consulting

10:10 – 10:25 Morning Break

General Session 2: Water Resources Management Planning I

Moderator: Tracy Nishikawa, United States Geological Survey

- 10:30 – 10:55 *California's Link Between Project Approval and Water Supply Availability*
Jim Bresack, RBF Consulting
- 10:55 -11:20 *Optimal Conjunctive Use of Surface Water and Groundwater Resources: A Tale of Two Cities*
Rob Gailey, R.M. Gailey Consulting Hydrogeologist
- 11:20 – 11:45 *Role of Optimization in Development of Integrated Regional Water Management Plans: A Linear Programming Approach*
Ali Taghavi, WRIME Inc.
- 11:45 – 12:10 *Applying Global-Local Optimization to a Conjunctive-Use Project*
Tracy Nishikawa, United States Geological Survey

12:10 – 1:25 Lunch Keynote Speaker – Optimizing Groundwater in the Context of Integrated Water Management in California

Jay Lund, University of California, Davis, Department of Civil and Environmental Engineering

General Session 3: Water Resources Management Planning II

Moderator: Chin Man Mok, AMEC Geomatrix

- 1:30 – 1:55 *Example Applications of GWM: A Ground-Water Management Process for MODFLOW*
Paul Barlow, United States Geological Survey
- 1:55 – 2:20 *Optimal Management of an ASR Program for Control of Land Subsidence, Lancaster, California*
Steve Phillips, United States Geological Survey
- 2:20 – 2:45 *An Adaptive Reliability-Based Optimization Framework for Managing Water Supply Operation Under Uncertainty*
Chin Man Mok, AMEC Geomatrix

2:45 - 3:10 *Optimal Integration of Attorneys and Hydrologists in a Water-
Management Study*
 Wes Danskin, United States Geological Survey

3:10 – 3:25 Afternoon Break

General Session 4: California Applications

Moderator: Eric Reichard, United States Geological Survey

3:30-3:55 *Evolution of Modeling Ground Water in DWR’s Optimization Driven
Water Allocation Model CalSim*
 Tariq Kadir, California Department of Water Resources

3:55 – 4:20 *Impact to California Groundwater Levels and Cropping Patterns
Resulting from Climate Change and Drought Conditions*
 Larry Dale, Lawrence Berkeley National Laboratory

4:20 – 4:45 *Use of Optimization Procedures to Estimate Water Demand and
Supply Options in MODFLOW’s Farm Process*
 Randy Hanson, United States Geological Survey

4:45 – 5:00 Closing Remarks

5:00 pm Adjourn

Poster Presentations

(Available for viewing during the entire Event)

Assessing Uncertainties of Modeling Radionuclide Migration (invited)
 Kayyum Mansoor, University of California, Berkeley, Department of Civil and
 Environmental Engineering

*HGS-M: A Tool to Conjunctively and Dynamically Simulate Subsurface and Surface
Water Processes Within an Optimization Driven Water Resources Management System
(invited)*

 Kirk Nelson, US Bureau of Reclamation

Practical Groundwater Cleanup Optimization with a TMR Model (invited)
 Kent Parrish, URS Corporation