



**GROUNDWATER RESOURCES ASSOCIATION
OF CALIFORNIA**

The Groundwater Resources Association of California Proudly Presents:

Isotope Methods for Groundwater Investigation Course

March 28, 2007
Hilton Hotel - Concord, California

COURSE AGENDA

7:00 AM REGISTRATION/CONTINENTAL BREAKFAST

8:00 am	Fundamentals of Isotope Geochemistry – Carol Kendall - Introduction: Reference Materials, Terminology - Isotopic Fractionation: Fractionation Factors, Exchange Mechanisms, etc. - Sampling Strategy, Quality Assurance of Contract Laboratories, Collection Methods
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9:30 – 9:45 Morning Break

9:45 am	Isotope Hydrology – Carol Kendall - Water Isotope Fundamentals - Miscellaneous Application Studies
11:30 am	Isotope Biogeochemistry – Carol Kendall - Introduction

12:00 – 1:00 Lunch Break

1:00 pm	Isotope Biogeochemistry (Continued) – Carol Kendall - Nitrate Isotope Fundamentals - Multi-Isotope Tracing of Sources of Agricultural and Urban Pollution - Miscellaneous Application Studies
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2:15 – 2:30 Afternoon Break

2:30 pm	Survey of Groundwater Age Dating Methods – Jean Moran - Fundamentals of Radioactive Decay - Sources of Radionuclides in Groundwater Systems - Sampling and Analysis of Tritium and Dissolved Gases - Calculation of Groundwater Age Using the Tritium-Helium Method
3:45 pm	Dissolved Gas Sampling – Jean Moran
4:00 pm	Miscellaneous Application Studies – Jean Moran - Using Groundwater Ages in Flow and Transport Models

4:45 pm Wrap-up