



AIPG Texas Section Selection of Petroleum Geology, Hydrogeology / Groundwater Evaluation, and Unconventional Hydrocarbon Resources

Online Courses, Webinars, and other Educational Resources

In December, 2016, the Texas Section of AIPG began an on-line survey of Texas membership about career opportunities and choices. We asked you to tell us what subjects you needed most to improve / broaden your own careers. We indicated that we would then search for online resources addressing the top three areas of interest. For more on the survey, see ([more](#)).

Results of the survey indicated the top three interest areas were:

- **Petroleum Geology** - Principally concerned with the evaluation of seven key elements applicable in the search for hydrocarbons: source, reservoir, seal, trap, maturation and migration.
- **Hydrogeology / Groundwater Resource Evaluation** - Groundwater quality and availability issues. Before water resources can be developed and managed, they must be evaluated, i.e., what portion of those resources can be sustainably exploited for various uses, after setting aside a proportion for environmental or ecological needs.
- **Unconventional Hydrocarbon Resources** - Distribution and production of oil and gas from shale (fracking) and gas from coal bed methane. Unconventional hydrocarbon deposits are very diverse and difficult to characterize overall, but in general are often lower in resource concentration, dispersed over large areas, and require well stimulation or additional extraction or conversion technology.

The following lists online courses, webinars and resources and addresses the above three career paths. The information should give you some help in either furthering your current career or venturing into new fields of geoscience. The rest is up to you!

Please feel free to send us additional links not in the list below and we will update our findings.

Thank you and good luck!

[Doug Hall](#), Chair
[AIPG Texas Section Business and Training Committee](#)
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Petroleum Geology

- **Petroleum Geology Fundamentals** – ([here](#))
- **Permian Basin Reservoir Completion Models** – ([here](#))
- **Leadership and Strategic Thinking in the Oil and Gas Industry** – ([here](#))

- **Petroleum Exploration and Production: An Online Overview** – ([here](#))
- **Strategic Decision Making: Current Issues in the Oil Industry** – ([here](#))
- **Geomodelling for Development and Production Geology** – ([here](#))
- **Evaluating Structure Maps** – ([here](#))
- **Concepts of Scale** – ([here](#))
- **Successful Oilfield Water Management** – ([here](#))
- **Practical Petroleum Geoscience** – ([here](#))
- **Introduction to Well Logs and Log Analysis for New Hires** – ([here](#))
- **Basic Reservoir Engineering for Geoscientists** – ([here](#))
- **Basics of Seismic Petroleum Exploration for New Hires** – ([here](#))
- **E-Learning Modules: University of Texas Petroleum Extension** ([PETEX](#))
- **Distance Learning Modules: University of Texas Petroleum Extension** ([PETEX](#))
- **Training Videos: University of Texas Petroleum Extension** ([PETEX](#))
- **Petroleum Geology** – ([here](#))
- **Exploration and Development for Carbonate Reservoirs** ([Applied Stratigraphix](#))
- **Exploration and Development for Sandstone Reservoirs:** ([Applied Stratigraphix](#))
- **Multiple Courses: Petroleum Geology** ([PetroSkills](#))
- **Multiple Courses: Petroleum Professional Development** ([PetroSkills](#))
- **Advancements in Oil and Gas Exploration and Production Technology** – ([here](#))

Hydrogeology / Groundwater Evaluation

- **ROCK CORE LOGGING FOR HYDROGEOLOGIC PROJECTS** – ([here](#))
- **MULTI AQUIFER RESPONSE TO PUMPING** – ([here](#))
- **UNCONFINED AQUIFER RESPONSE TO PUMPING** – ([here](#))

- **SLUG TESTING FOR SITE CHARACTERIZATION – The Six Key Steps:** ([here](#))
- **SLUG TESTING FOR SITE CHARACTERIZATION:
Practical Guidelines to Improve Efficiency and Accuracy** – ([here](#))
- **SLUG TESTING FOR SITE CHARACTERIZATION:
Practical Guidelines for Processing and Analysis of Your Slug Test Data** – ([here](#))
- **AQUIFER PUMPING TEST TECHNIQUES: Parts 1 through 6** – ([here](#))
- **STEP-BY-STEP PACKER TESTING:
Measuring Hydraulic Conductivity and Aquifer Properties for Hydrogeologic
Projects** – ([here](#))
- **INTERPRETING AQUIFER TESTS IN FRACTURED ROCK** – ([here](#))
- **HYDROGEOLOGY OF AQUITARDS AND LOW-PERMEABILITY
MATERIALS Parts 1 and 2** – ([here](#))
- **INTERPRETATION OF WATER-LEVEL CHANGES IN WELLS: Signal or
Noise?** – ([here](#))
- **DESIGNING AND OPTIMIZING GROUND WATER MONITORING
SYSTEMS IN SEDIMENTARY SEQUENCES: Parts 1 through 3** – ([here](#))
- **WELL DESIGN AND CONSTRUCTION: Selecting Appropriate Filter Pack and
Screen Slot Size** – ([here](#))
- **EFFECTIVE USE OF MODFLOW-USG FOR GROUNDWATER MODELING:
Parts 1 and 2** – ([here](#))
- **BOREHOLE FLOW METERS: Parts 1 and 2** – ([here](#))
- **HYDROGEOLOGY OF KARST CONDITIONS: Parts 1 and 2** – ([here](#))
- **KARST CHARACTERIZATION USING GEOPHYSICS: PART 1 and 2** – ([here](#))
- **Groundwater Hydrology** – ([here](#))
- **MODFLOW Beginners and Advanced Courses** – ([here](#))
- **Introduction to Groundwater Resources (NGWA)** – ([here](#))

Unconventional Hydrocarbon Resources

- **Introduction to Shale Gas** – ([here](#))
- **Unconventional Resources** – ([here](#))
- **Ambient Seismic Imaging throughout Life Cycles Unconventional Fields** – ([here](#))
- **An Analytical Model for Shale Gas Permeability** – ([here](#))
- **Multiscale Modeling of Gas Transport and Storage in Shale Resources** – ([here](#))
- **Proppant Selection Drivers in Unconventional Resources** – ([here](#))
- **Shale Wells Making the Engineering Fit What Geology Offers** – ([here](#))
- **Basic Tools for Shale Exploration** – ([here](#))
- **Past, Present and Future of Fossil Fuels – Stanford University** – ([here](#))
- **Multiple Courses: Unconventional Resources (PetroSkills)** – ([here](#))

Online Resources

ASBOG resources:

- Handbook – ([here](#))
- Tasks of Geologists/Geoscientists – ([here](#))
- Test Format – ([here](#))
- Handout-Exams – ([here](#))

National Ground Water Association resources:

- Fundamentals – ([here](#))
- State Maps – ([here](#))
- Consultants Directory – ([here](#))

U.S. Geological Survey Resources:

- Water Resources of the United States – ([here](#))
- Education on Water Supply – ([here](#))
- Water Resources of Texas – ([here](#))
- Biology, Geography, Geology, Water, and much more... – ([here](#))
- Energy News and Current Publications – ([here](#))
- Unconventional Energy Resources FAQ – ([here](#))
- Groundwater Information – ([here](#))
- Groundwater Technical Procedures – ([here](#))
- Groundwater Technical Procedures Videos – ([here](#))
- Selected Groundwater Issues – ([here](#))

Texas Water Development Board:

- Groundwater – ([here](#))
- Demonstration with a Physical Model – ([here](#))

Texas Railroad Commission resources:

- Oil and Gas Educational Events – Online – ([here](#))

Reasons for a Degree(s) in Geology – ([here](#))

American Petroleum Institute resources:

- Online Education Resources – ([here](#))
- Video on Oil and Gas Production – ([here](#))

Association of Environmental & Engineering Geologists:

- AEG Short Courses – ([here](#))

Petroleum Geology Forums – ([here](#))

AIPG Courses and Employment Listings – ([here](#)) and ([here](#))

Local Geological Societies:

- Houston Geological Society – ([here](#)); ([employment](#))
- South Texas Geological Society – ([here](#))
- West Texas Geological Society – ([here](#))
- East Texas Geological Society – ([here](#))
- North Texas Geological Society – ([here](#))
- Austin Geological Society – ([here](#))
- Panhandle Geological Society – ([here](#))
- Dallas Geological Society – ([here](#))
- Corpus Christi Geological Society – ([here](#))

Gulf Coast Association of Geological Societies – ([here](#))

I2M Associates Web Portal:

- About the Web Portal – ([here](#))
- 219 subfields of Geoscience in terms of Commodities – ([here](#))
- Top Ten Categories – ([here](#))

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