

# Workshops

## Workshop #1: More Rocks in Your Head

Saturday, 11 October 2008  
Pittsburgh Public Schools' Greenway Professional  
Development Center

**Who should attend:** The nationally acclaimed workshop, "More! Rocks in Your Head," covers a full scope of earth sciences for elementary and middle school teachers. A comprehensive manual and course materials will enable full or partial incorporation into an individual teacher's curriculum.

**About the Course:** Teachers will learn to teach with confidence guided in each section by: 1) background information; 2) vocabulary; 3) project information; 4) projects; 5) advanced thinking topics; and 6) cross-curricular ideas with language arts, social and other sciences, and math. All projects are hands-on, making earth science a fun and memorable learning experience. Interactive overview and review games such as Geo-Bingo and Jeopardy lead to understanding and retention for all. For more information on MRIYH visit [www.rocksinyourhead.org](http://www.rocksinyourhead.org).

**Course Content:** Students will begin their hands-on investigations with Disappearing Nickels and Earth Models, an edible study on the earth's structure, then learn about different rock types with Mount Eruptus, Sedimentary Rock Socks, Mighty Morph and Power Pressures. They will learn how plants and animals change through geologic time by comparing Scenes of the Past created by them for the Paleozoic, Mesozoic and Cenozoic eras. Environmental processes like soil erosion, mining & reclamation, and cave formation are the subjects of other activities, along with mineral identification, geologic landforms, earth science careers, fossil fuel formation with a non-renewable activity (Bottle of Gold: a Non-renewable Resource) and an exciting oil exploration game, where groups of students form oil companies (beginner, intermediate and advanced levels included). Other hands-on projects include The Body on the Beach (forensic geology), Class Cave, Get a Half-Life, Mineral Concentration, and Landform BINGO.

**Duration/Credit Hours:** 8 hours or 0.8 CEU (Continuing Education Unit)

**Teachers Who Attend also will Receive:** Each teacher will receive the More! Rocks in Your Head manual, written with background information, vocabulary, hands-on project, advanced thinking topics, and cross-curricular ideas. They also will receive labeled rock samples, labeled minerals with Test Kit, Hunt for Fossil Fuels oil exploration game, a certificate of completion for 8 hours or .8 CEU, and lunch.

**Instructor Biography:** Janie Schuelke, Geoscience Education Consultant, has been presenting this workshop and its predecessor (Rocks in Your Head) at AAPG Section meetings for the past 9 years. In more than 40 workshops, she has prepared more than 2600 teachers to teach the earth sciences with hands-on activities, reaching more than 126,000 students per year. With an education in geology and work experience in both geophysics and teaching, Janie specializes in explaining complex information in an easily understood style for many levels, including those who think they are science challenged. In the training of teachers for the earth sciences, both information and motivation are necessary, especially at the elementary school level.

**Cost: Free to the first 45 teachers who register!** The normal fee of \$130/teacher will be waived. The workshop will be subsidized by AAPG, PAPG and the Pittsburgh Petroleum Section of SPE, so please, don't be a no-show!

## Workshop #2: Geology & Geophysics Applied in Industry

Saturday, 11 October 2008  
Brigade Room

**Who Should Attend:** This course is designed to give graduate students and seniors majoring in the geosciences insights into how geology and geophysics are applied within the energy industry. A limited number of university professors also may attend.

**About the Course:** This course is designed to give graduate students and seniors majoring in the geosciences insights into how geology and geophysics are applied within the energy industry.

**Course Content:** Through a combination of short lectures and hands-on exercises, we will look at:

- The Focus of Industry
- The Basics of Prospecting
- Fundamentals of the Seismic Method
- Well-Seismic Ties
- Structural Analysis of Seismic Data
- Stratigraphic Analysis of Seismic Data
- DHI Analysis

During the last 30 minutes, we will discuss career opportunities in the energy industry.

**Duration/Credit Hours:** 8 hours/0.8 CEU

**Instructor Biography:** Fred Schroeder (ExxonMobil Upstream Research Company, Geophysics Division, Quantitative Interpretation Section) has presented this course on more than a dozen college campuses as part of AAPG's Visiting Geosciences Program. The course will be underwritten by ExxonMobil, allowing students and faculty members to attend at low cost.

**Cost:** \$10 for students  
\$25 for faculty

**Limit:** 20 students  
4 faculty

# Workshops (cont.)

## Workshop #3: Shale Gas Project Planning

Saturday/Sunday, 11-12 October 2008  
Ballroom 4 (Saturday), Rivers Room (Sunday)

**Who Should Attend:** Geologists, Engineers and Managers with an interest in the Marcellus and other shale plays in the three eastern basins.

**About the Course:** The high-volume gas demands in markets such as the United States, Europe, China and India have gained the petroleum industry's attention. In recent years the focus on unconventional gas resources (coal bed gas, shale gas, tight gas sands, and gas hydrates) has increased as gas production from conventional resources decline. Economically producing gas from unconventional sources is critical in alleviating the long-term global demand of energy.

The United States consumes 23.5 Tcf per year of natural gas and produces 18.5 Tcf/year (source: 2006 DOE Energy Information Agency statistics). Shale gas has now become an important part of the energy mix; and gas producers are willing to pursue shale gas ventures to meet the domestic demand.

Formation characteristics such as petrophysical and mechanical properties, in-situ stress analysis, and/or gas-in-place estimates are essential to understand any shale gas reservoirs. Effective and efficient project planning, field operations, and data interpretation are important parts in preparing an exploration program.

**Course Content:** This is an informative and interactive two-day workshop. Using the fictitious Ganadawao Shale reservoir, industry specialists will guide the participants through the entire pilot shale gas exploration program from understanding the project objectives and incorporating proper analysis, to evaluating data and integrating reservoir modeling techniques. Topics of discussion will include:

- Determining and understanding project objectives
- Understanding exploration technology
- Identifying field service companies
- Recognizing analysis myths and revealing the facts
- Planning field operations
- Interpreting data and integrating reservoir modeling techniques
- Understanding completions design

**Duration/Credit Hours:** 16 hrs/1.6 CEUs

**Instructors:** Presentations will be made by recognized experts from Talisman Energy (Fortuna), ReedHycalog Coring Services, and Weatherford Labs, including Ticora Geosciences, Humble Geochemical Services and Omni Labs.

**Cost:** \$295 (This course is co-sponsored by ReedHycalog)

**Limit:** 50 participants

## Workshop #4: Putting It All Together – Optimizing Fracture Designs

Wednesday, 15 October 2008  
Brigade Room

**Who Should Attend:** Engineers, managers and geologists who often are required to plan or assist with fracturing gas and oil wells, particularly in shale reservoirs, should find this workshop to be very informative.

**About the Course:** This workshop will focus on practical fracture optimization. The morning session will focus on the determination of realistic fracture conductivity and the many challenges we have in placing an effective fracture. During the afternoon session the focus will shift to specialized topics, including slickwater and shale-gas fracturing. In addition to the workshop notes, participants in this seminar also will receive a written summary of 80 published field studies where profitability was improved by modifying the fracture design. Participants in this workshop will be able to optimize a fracture design to accommodate many common damage mechanisms.

**Course Content:** Some of the specific topics to be covered include conductivity testing; proppant types and characteristics; non-darcy and multiphase flow; understanding crush testing; embedment, cyclic stress, fines migration and gel cleanup; slickwater fracturing (geometry, prop transport, frac width, prop placement); effective versus propped half length; fracture optimization; and field studies. This workshop will be informal; questions and discussions will be highly encouraged. Handouts and reference materials will be provided to all participants.

**Duration/Credit Hours:** 8 hours/0.8 CEU

**Instructor Biography:** Terry Palisch, Senior Staff Engineer, Carbo Ceramics. After completing his BS in Petroleum Engineering at the University of Missouri-Rolla, Terry Palisch began his career as a petroleum engineer, working for 10 years with ARCO in Alaska and for four years with ARCO in Algeria, North Africa. During a portion of his tenure in Alaska, Terry supervised the \$10,000,000 (annual) fracture stimulation program at ARCO's Kuparuk River Field. In 2004 Terry joined CARBO Ceramics as a Sr. Staff Petroleum Engineer after teaching high school Algebra and Statistics in Wylie, TX. His current work primarily focuses on helping clients optimize fracture designs by accurately predicting production under realistic conditions. He also provides guidance and analysis on all field trials run by CARBO's customer base and has authored numerous technical papers.

**Cost:** \$150 (This workshop is co-sponsored by PTTC)

**Limit:** 50 participants

