

All are invited to attend the monthly meeting of the  
**Nittany Mineralogical Society**  
**Wednesday, November 28, 2012**

## **Roadside Geology** **Part 2: Pennsylvania and Beyond**

by Dr. Charles E. Miller, Jr.  
Retired Geologist

*Our November meeting will be held Wednesday the 28th in the room 114 auditorium of Earth & Engineering Sciences Building on the west side of the Penn State campus in State College, PA. Maps are available through our web site.*

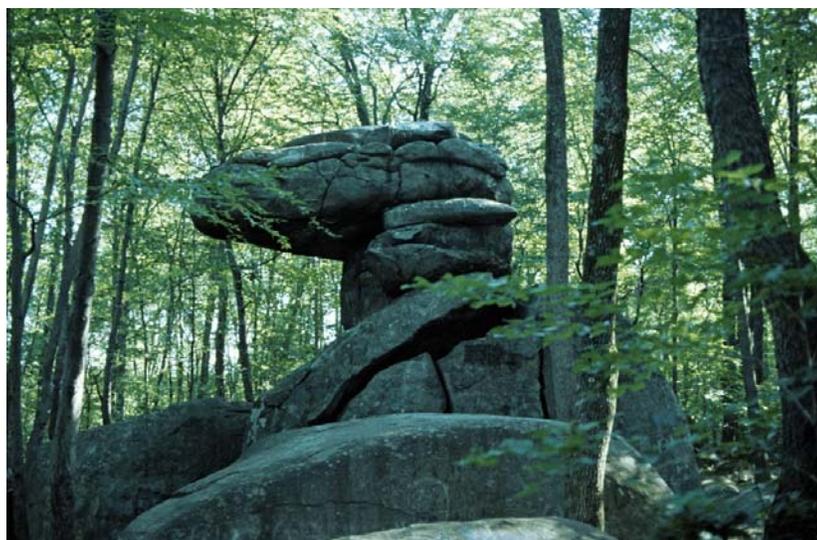
*5:00 to 6:00 p.m. Junior Rockhounds meeting in room 121*

*6:30 to 7:30 p.m.: Social hour, refreshments in the lobby*

*7:30 to 8:00 p.m.: announcements, questions, answers;  
door prize drawings*

*about 8:00 p.m.: featured program*

*The event has free admission, free parking, and free refreshments, and is open to all –  
Bring your friends and share an interesting evening.*



Dinosaur Rock, Mt. Wilson Road (Rt. 3005); Lebanon County, PA; 7-14-77. This outcrop is an erosional remnant of diabase. During the Jurassic in southeastern Pennsylvania, a large mass of magma intruded into Triassic sedimentary rocks. The boulders are spheroidally weathered. Emplacement of the diabase here and elsewhere along the eastern U.S. coincides with rifting of Pangaea during the Triassic as the modern Atlantic Ocean began forming.

"Roadside Geology - Part 2" concludes our traverse through Pennsylvania that began in Part 1 and then continues to Maryland, Virginia, Tennessee, and western states. Intrastate observations include: megaripples, sinkholes along I-81, headward erosion, a Triassic dike, Dinosaur Rock, Gettysburg Battlefield, dinosaur footprints, ringing rocks, rockfalls, slumping, and more. Sinkholes observed along I-81 between Carlisle and Hagerstown (MD) from 1970 to 1980 cost \$150,000 for evaluations and repairs. We will look at sinkholes developed on a fracture trace; the timing of one as determined from the surrounding corn crop; and one involved in a complaint against PennDOT but resolved through aerial photography. The geologic connection between an igneous dike at Carlisle, Dinosaur Rock, Devil's Den, and Ringing Rocks State Park will be discussed. At the Gettysburg Battlefield, approximately one million people visit annually but virtually none know of the Triassic dinosaur footprints in the Plum Creek Bridge. Finally, in 1983 a spectacular rockslide killed two people and injured another on a road in Pittsburgh. Details of this are discussed.

Our western-states roadside geology includes Douglas Pass, Colorado - notorious for landslides; slumping and earthflows; I-40 at Rockwood, Tennessee that, prior to Skytop, was the most expensive stretch of U.S. highway; a paleosol (paleosoil); an obsidian flow; en echelon faults at Hoover Dam; the world's largest petrified forest at Yellowstone National Park; radial dikes; a feeder dike and lava flow; a volcanic neck; fault scarps; and more. Douglas Pass has the distinction of being significant to geologists for two reasons: it is one of the best Eocene Green River Shale insect-and leaf-collecting sites; and it is an on-going challenge for engineering geologists and highway engineers because it is one of Colorado's most active landslide areas. Slope failures include earthflows, debris flows, rockfalls, and a variety of rotational and translational landslides. At Yellowstone we will see 27 petrified forests on top of each other as a result of super volcano eruptions approximately every 100,000 years which covered living forests with ash. The petrified trees are in original, vertical growth position. Over 3.5 million tourists visited Yellowstone in 2010. Probably 99.5 percent have never heard of Specimen Ridge.

**[www.nittanymineral.org](http://www.nittanymineral.org)**