

2017 Tellus Mineral Symposium

Tellus is pleased to announce the following experts as presenters for the symposium.

Dr. Molly McCanta – University of Tennessee
Hydrothermal Mineralization on Mars: Changing Views From Planetary Rovers

Dr. McCanta's research works to understand the magmatic history recorded inside mineral grains and glasses from Earth and other terrestrial planets in order to accurately assess pre-eruptive magmatic conditions and to better predict eruptive hazards. The MER and MSL Mars rovers have returned data from sampling suggesting its history included significant hydrothermal deposits. In her talk, Dr. McCanta will discuss the geochemical data returned, the mineralization observed, the potential formation environments, and how this influences our overall picture of the geologic evolution of Mars.

Stan Bearden – New Riverside Ochre
Hydrothermal Mineralization and History of the Cartersville Mining District

Vice President of Operations at New Riverside Ochre, Stan Bearden has seen the Cartersville Mining District's (CMD) geology and history unfold. The CMD has rich mineralization and since the early 1800's has been mined for industrial minerals such as iron, manganese, barite, and it continues strong today with operations such as New Riverside Ochre. Many of the minerals including world-renowned barites from the Paga Mine are created through hydrothermal processes, in his presentation Stan will discuss the interesting and historic geology of this district as well as its importance and connection to objects we use every day.

Rachael Ledford – Jackson's Crossroads Amethyst Mine
Hydrothermal "Grape Jelly" – The Origin and History of Amethyst Mining at Jackson's Crossroads

Jackson's Crossroads Mine in Wilkes, Co., Georgia produces some of the highest quality amethyst in North America. Rachael Ledford has been co-owner of this famous mine for 2 1/2 years and has learned a lot about its history and geology. In her presentation Rachael will discuss the hydrothermal origins of the veins and the interesting stages of quartz growth. She will also share stories and photos from some of the best pieces, and talk about the current and future production of this famous Georgia gem!

Dr. Virgil Lueth – New Mexico Bureau of Mining and Mineralogy
Hydrothermal Ore Deposits and Mineralization Throughout Geologic Time – Examples from the Land of Enchantment

Serving as the state mineralogist, Dr. Lueth spends much of his time and expertise researching and documenting the mineralogy of New Mexico. Hydrothermal mineral deposits are prevalent in the state and almost all types are present, ranging from Proterozoic black smokers, Laramide copper porphyry systems to Tertiary MVT deposits and modern geothermal systems. Using examples from his research and experiences in

New Mexico, Dr. Lueth will illustrate the wide variety of hydrothermal deposits and the minerals they contain within the context of the state's geologic history.

Jame A. Riley – Paragenesis Minerals

The Viburnum Trend: Hydrothermal Paragenesis of SE Missouri's Lead Belt

Jame is a professional graphic designer in Atlanta, operating as Riley Design Works, as well as a lifelong mineral collector and owner of Paragenesis Minerals. Expanding on his presentation from the 2016 Tellus Rockfest, this new presentation reexamines the world famous Missouri Lead Belt – particularly the SE section known as *The Viburnum Trend*. His presentation will focus on the geologic history of the deposits through several hydrothermal events that created one of the world's largest and most valuable lead sulfide deposits. He will also discuss the paragenesis sequences and how the country rock contributed to the beautiful but limited suite of minerals found from this locality.

Field Trip Information

Meet in the pavilion at Tellus at 9 AM on Sunday March 26, 2017

Join Tellus Curator Sarah Christensen and Tellus Staff on this all-day field trip to two mines in the Atlanta area with hydrothermal origins. Expanding on the Saturday Mineral Symposium, this trip will provide a unique opportunity to see and collect hydrothermal minerals in your own backyard.

10 AM – NEW RIVERSIDE OCHRE

Founded in 1905, New Riverside Ochre mines and processes iron oxide pigments and barite used in products you see every day. Vice President of Operations Stan Bearden will lead this trip to the Emerson Mine and barite processing plant in Cartersville, GA. You will have the opportunity to collect barite samples, as well as see the inside of the plant and learn how barite is processed.

NOON – Lunch

2 PM – RED OAK QUARRY

Red Oak Quarry is one of many mining operations owned by Martin Marietta, a leading supplier of aggregates and heavy building materials. Though mined primarily for granite, Red Oak has some complex and interesting hydrothermal mineralization which you will be able to see and collect on this visit.

5 PM – Return to Tellus Science Museum