OAK RIDGE ASM CHAPTER WELCOMES YOU TO A DINNER AND LECTURE

WITH:



ASM TRUSTEE DR. TONI MARECHAUX

Dr. Toni Marechaux currently serves as a lead analyst at the Advanced Research Projects Agency for Energy (ARPA-E) in the US Department of Energy. Previously, she served as a senior analyst for the Defense Science Board and a science advisor to ZIN Technologies in support of space experiment design. Dr. Marechaux also spent five years at the National Academies of Sciences, Engineering, and Medicine. During her tenure there, she directed more than 30 studies for the National Materials Advisory Board and the Board on Manufacturing and Engineering Design. Finally, in her first professional position, she supervised cold-rolled steel testers and inspectors at National Steel in Portage, Indiana. Dr. Marechaux graduated from the University of Illinois with a B.S. in Metallurgical Engineering and from Case Western Reserve University with a Ph.D. in Materials Science and Engineering. She maintains an abiding interest in abolishing barriers to new technology applications and in engineering solutions for sustainable development.

Striving Toward a Circular Economy: Challenges and Opportunities for Metals Processing

The concept of a circular economy is influencing more and more materials production and use. While the processing of metals and minerals can be damaging to the environment, their inherent strength, durability, and corrosion properties clearly improve the performance and longevity of products in which they're used. Metals are infinitely recyclable, with a high value that drives the recovery of such materials at the end of a product life cycle. Many companies are looking to new technologies to help eliminate waste (because any pollution is a product you're not selling!) and increase productivity and efficiency through sustainable processes. From designing products for high performance, durability, and recycling, optimizing the use of raw materials, and capturing and using waste streams, there are many new materials technologies of growing interest. Let's look at both the low-hanging fruit and the long-term research that will move this concept forward. Opportunities in the steel, aluminum, and titanium industries will be discussed.

