TMS2016
145th Annual Meeting & Exhibition

FEBRUARY 14-18 DOWNTOWN NASHVILLE, TENNESSEE MUSIC CITY CENTER

Connecting the Global Minerals, Metals, and Materials Community.

Materials in Clean Power Systems IX: Durability of Materials

Growing energy demand and increasing concerns regarding energy security and pollution emission have sparked worldwide research and development for clean and renewable power technologies. Such technologies include clean coal technologies, carbon capture, concentrated solar power, biomass fuels, and hydrogen-based power systems. New specific high-temperature operating conditions are expected for each of these processes and the durability of candidate materials and coatings need to be assessed in order to meet targeted component lifetimes. This symposium will focus on both the scientific and technological aspects of material degradation in clean power generation technologies, including new material and coating development, mechanical properties characterization, corrosion resistance in complex environments, and component lifetime prediction. The goal is to provide a forum for the latest developments and insight on the performance of materials being considered or used in clean power systems.

Proposed session topics are

- Novel materials and materials degradation in clean coal and biomass power generation, hydrogen production from varied sources, and hydrogen-based IC and turbine systems.
- Materials for high-temperature heat transport systems with novel heat transport media, including, but not limited to, liquid metal, salt, and supercritical CO2.
- Degradation modeling and lifetime prediction of materials used in clean and renewable power systems.

Organizers include:

Sebastien Dryepondt, Oak Ridge National Laboratory (USA)
Peter Hosemann, University of California Berkeley (USA)
Kinga A Unocic, Oak Ridge National Laboratory (USA)
Paul Jablonski, National Energy Technology Laboratory (USA)
Joseph Licavoli, National Energy Technology Laboratory (USA)

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Join us at TMS2016 in Downtown Nashville, Tennessee, February 14-18!