

TMS2016

145th Annual Meeting & Exhibition

FEBRUARY 14-18 DOWNTOWN NASHVILLE,
TENNESSEE MUSIC CITY CENTER

Connecting the Global Minerals, Metals, and Materials Community.



Materials Processing Fundamentals

This symposium will cover all aspects of the fundamentals, synthesis, analysis, design, monitoring, and control of metals, materials, and metallurgical processes and phenomena.

Topics will include:

- Experimental, analytical, physical and computer modeling of physical chemistry and thermodynamics
- Modeling of the transport phenomena in materials processing and metallurgical processes involving iron, steel, nonferrous metals, and composites
- Second phase particles in metals and processes, such as nonmetallic inclusions and bubbles in metals (steel, aluminum, silicon, magnesium, etc.) or gas bubbles in slag or electrolyte (foaming, gas evolution or injection, etc.)
- The fundamentals (experimental studies or theoretical studies) on the nucleation, growth, motion and removal of these second phase particles from the molten metal or reactors
- Physical chemistry, thermodynamics and kinetics for the production and refining of rare earth metals
- Control of industrial processes in the field of extraction and processing of metals and materials: novel sensors for hostile-environment materials processes such as online inclusion detection, temperature, and velocity in molten materials, surface condition of hot moving products, etc.
- Innovative online sampling and analysis techniques; models for real-time process control and quality monitoring systems.

Organizers include:

Antoine Allanore, Massachusetts Institute of Technology (USA)

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