

Connecting the global minerals, metals, and materials community.



Plan Now to Attend:

Solar Cell Silicon

There is an expanding interest in silicon for solar energy and electronics. The past decade has seen an unsurpassed growth in the solar industry where costs have been cut dramatically along the production value chain, now allowing solar energy to be a competitive contributor to global energy supply. The most important feedstock for crystalline solar cells is high-purity silicon. For the industry to mature and grow into green production, improvements in Si production, refining, crystallization and wafer processes, emission control, and recycling needs to be carried out. Mechanical properties, stress and failure mechanisms, and their correlation with defect and crystal structures are the highlights of the symposium.

Abstracts are being solicited for the following topics:

- **Silicon Feedstock Production:** Carbothermic and non-carbothermic reduction of silica and silica ores, advances in process design and intensification, novel techniques of silicon production, and thermodynamic and kinetic modelling
- **Silicon Refining and Behavior of Impurities:** All types of metallurgical upgrading approaches: solvent refining, slag refining, electrolysis, gas blowing/oxidation refining, plasma refining, vacuum refining, solidification techniques, settling, filtration, optimization of the Siemens-like routes, etc.
- **Advanced Wafering Techniques:** Spin- and ribbon-growth, etc.
- **Recycling of Silicon and Interaction of Impurities:** Production scraps and cut-off, used cells and electronic components
- Implications of the mechanics of silicon solar cells on mechanical stresses and thus failures (silicon defects, cracks, delamination, etc.) of the solar devices as a result of thinner and thinner wafers
- Novel and advanced techniques for materials and defects characterization in silicon, wafers, and solar cells. Practical applications to improve overall reliability of a silicon device.

Sponsored by:

- TMS Extraction & Processing Division; TMS Light Metals Division
- Recycling and Environmental Technologies Committee

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