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# Silicon Production, Purification and Recycling for Photovoltaic Cells

### Sponsored by

TMS Extraction and Processing Division and TMS Light Metals Division TMS Energy Conversion and Storage Committee and TMS Recycling and Environmental Technologies Committee

### Scope

There is an expanding interest in silicon for solar energy and electronics. The growth in the silicon industry has been around 40% over the last three years. In the manufacture of solar cells more than half of the raw material is wasted. During the cutting of the solar cell silicon wafers half of the metal is lost as swarf. This consists of very fine silicon particles, SiC in the cutting liquid polyethylene glycol (PEG) and traces of glass, iron and copper. The silicon goes to landfill today. Universities and research institutes with a background in aluminum and in other metals are in the process of transferring their efforts more and more towards silicon.

Abstracts are being solicited for the following topics:

- Recycling silicon from various sources: ingots, broken wafers, scrap cells, swarf from wire saw and electronic scrap.
- Refining technologies of silicon based on: settling, filtration (of metallurgical grade silicon) and directional solidification.
- New silicon feedstock technologies such as plasma, new (Siemens) processes, electrolysis and processes based on silicontetrachlorine.
- Characterization of solar cell and electronic silicon materials.

# **Organized by**

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# Deadline

Abstract Submissions: July 15, 2011 (Please visit http://www.programmaster.org/TMS2012)









photographer, Melinda Gaal