

**Dr. Kent Peaslee**

***University of Missouri – Rolla, Metallurgical Engineering***

**Ceramic Solutions to Steel Making Problems**

University of Missouri-Rolla Ceramic Engineering Seminar Series Speaker  
Thursday February 5<sup>th</sup>, 2004

McNutt Hall, Room 204  
3:30pm

Biography:

Dr. Peaslee received his BS in Metallurgical Engineering from Colorado School of Mines and PhD from UMR. He spent thirteen years in the steel industry working in various technical and management positions. He was a General Manager at Bayou Steel before leaving the steel industry to attend graduate school at UMR. He has taught metallurgical engineering at UMR for 10 years and is currently an Associate Professor.

Abstract:

There has been an explosion of new technology in the steel industry which has transformed this historic “smokestack” industry into the highly automated, energy efficient and environmentally friendly steel industry of today. This presentation will highlight some of the technical advances in the steel industry focusing on two ceramic related solutions, slag splashing and clog-free continuous casting nozzles, both of which have been topics of significant research and development at UMR. Steelmaking furnaces are lined with refractories which wear during use requiring regular maintenance and periodic replacement. In slag splashing, slag formed in the furnace is used to coat and protect the refractories resulting in significant cost savings for the integrated steel industry. Research in optimizing this technology at UMR will be reviewed. Continuous casting has been the single most important technology applied to the steel industry during the last 50 years. In this process, steel is cast through small diameter ceramic nozzles. Accretions tend to form on the inside of these nozzles eventually causing the casting process to be terminated prematurely, a problem that has plagued steelmakers for years. UMR’s ongoing research in developing ceramic nozzles that minimize clogging will be highlighted.

A meeting of the UMR Chapter of the American Ceramic Society and the Missouri Chapter of Keramos will follow the Seminar in McNutt 211.

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