

**Agenda:**

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**14h – Rosa Silva, Gestão de Escórias e Refractários - Alternativas de Valorização**

**14h30 – Mathew.T. Mathew, Some thoughts on mapping and modelling of microabrasion-corrosion interactions**

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Thank you for your cooperation during last three SIM sessions, which is gradually becoming a remarkable event for all the researchers at the CT2M, for the scientific interactions and exchange/gather new views/thoughts. All are welcome to the 4<sup>th</sup> session on 5<sup>th</sup> December 2007. The more details of the above presentations are as follows,

**1. Gestão de Escórias e Refractários- Alternativas de Valorização  
by Rosa Silva (rsilva@cvresiduos.pt)**

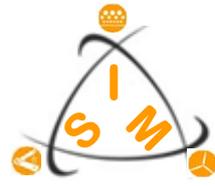
**Abstract:** O objectivo do estudo prende-se com a avaliação da viabilidade de valorização material de escórias e refractários da indústria da fundição, em diferentes aplicações, tais como, a incorporação em cerâmicos e incorporação em argamassas de cimento.

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**2. Some thoughts on mapping and modelling of microabrasion-corrosion interactions  
by Mathew. T. Mathew ( mathew@dem.uminho.pt)**

**Abstract:** One of the major challenges to the industrial world is that, the materials employed for various applications will expose to tribological environments such as abrasion, friction, wear and corrosion. This will result in significant economic loss. Hence there is a vital need to understand the behaviour of the materials before the application in industry, which can be done only through conducting laboratory tests.

There are traditional testing methods available to study the abrasive wear of the materials. However micro-abrasion is a very recent development, where the particles used are less than 10 µm in diameter. A range of laboratory studies on micro-abrasion reported many advantages of using this system. These include its direct relation to the mechanisms of the wear process, easiness in conducting the tests and the high repeatability of the test results. It has wide applications that range from the testing of coatings used in space and offshore industry to bio-engineering of the artificial hip joints and dentistry.



Scientific Interaction Meetings

This presentation is focused on the mapping and modelling of microabrasion process of various materials, starting from basic metals to the coatings, polymers and case hardened steels in dry, aqueous and lubricated conditions. The studies on the microabrasion-corrosion with two couples: mild steel/polypropylene and Ni-Cr/WC lasercarb coated stainless steel/ceramic are also included in the talk. A software front-end in visual basic environment has been developed, to display the various wear maps systematically and user-friendly.