



MONASH University

Department of Chemical Engineering

SEMINAR

**Evaluation, Mechanism, and Mitigation of
Environment-assisted Degradation of
Engineering Materials.**

Presented by A/Prof Raman Singh

Departments of Mechanical and Chemical Engineering,
Monash University, Vic 3800, AUSTRALIA.

**Thursday 15th May 2008, Building 69, Room 201, 4 – 5pm,
Monash University Clayton Campus.**

Abstract:

The talk will present recent results in three of the research areas in A/Prof Singh's research group:

- (a) Corrosion of magnesium alloys and mitigation strategy: Mechanism of corrosion, and its mitigation by techniques such as laser-assisted surface modification and nanostructured silane coating will be discussed,
- (b) Corrosion improvement through nanostructured materials: Very recent results and mechanism of improved corrosion resistance of nanocrystalline Fe-Cr alloys at considerably low Cr levels will be discussed, and
- (c) Novel technique for relatively inexpensive determination of susceptibility of steels to corrosion-cracking in alumina processing industry: Novel technique of circumferential notch tensile (CNT) testing, developed at Monash can generate the necessary design data for susceptibility to stress corrosion cracking, at a considerably reduced cost (~20% of the cost associated with the traditional technique). CNT testing has been applied to generate data for alumina processing industry.

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