

## MM 23: Invited talk Srolovitz

Time: Tuesday 9:30–10:00

Location: BAR 205

**Invited Talk**

MM 23.1 Tue 9:30 BAR 205

**Integration of Grain Boundary Mechanics and Migration**

— •DAVID SROLOVITZ, JIAN HAN, SPENCER THOMAS, and VACLAV VITEK — University of Pennsylvania, Philadelphia, PA USA

Most grain boundary (GB) properties are modeled as if they were associated with isolated phenomena; these include GB mobility, GB sliding, GB interactions with lattice dislocations, GB roughening, GB shear

coupling,... The result of these efforts has largely been phenomenological models with little quantitative predictability. In this presentation, I will outline an approach that has its foundations in grain boundary bicystallography which, when coupled with, some simple statistical mechanics ideas, show how these phenomena are intimately coupled. The presentation will outline the underlying theoretical ideas and demonstrate these with molecular dynamics and Monte Carlo simulations.