**PRISMS Center**

**Annual Workshop Agenda**

**August 18-19, 2016**

**Palmer Commons Forum Hall**

**University of Michigan**

**Preliminary Program Overview - Version 1**

**Thursday August 18**

**8:00am Registration**

**8:30am** **Welcome and PRISMS Center Overview**

John Allison

***Predicting Microstructural Evolution***

**Quantitative characterization of precipitate evolution in Mg-RE alloys**

Ellen Solomon, Vicente Araullo-Peters and Emmanuelle Marquis

**Application of CASM to Mg-Nd, Mg-Y and Mg-Nd-Y system**

Anirudh Natarajan, Brian Puchala, Anton Van der Ven

**Predicting precipitate evolution in Mg-Nd using PRISMS-PF**

Steve DeWitt, Shiva Rudruraju, Katsuyo Thornton and John Allison

**Incorporating Strongly Anisotropic Interfacial Energy and Nucleation into PRISMS-PF**

Beck Andrews, Jason Luce, Shiva Rudruraju, Steve DeWitt and Katsuyo Thornton

***Predicting Tensile Behavior***

**Effect of plastic anisotropy on twin/grain boundary interactions in Mg alloys**

Guest Speaker: Irene Beyerlein, LANL

**Quantifying local deformation in Mg alloys**

Zhe Chen and Sam Daly

**Using PRISMS-CPFEA to model microstructural influences on tensile Deformation in HCP Metals**

Sriram Ganesan, Shiva Rudruraju and Veera Sundararaghavan

**Modeling Twin formation in Mg Alloys**

Guest Speaker: Maryam Ghazisaeidi, Ohio State University

(Invited not yet confirmed)

**Mechano-chemical models of twinning deformation**

Koki Sagiyama, Shiva Rudruraju, Anton Van der Ven and Krishna Garikipati

**4:30-7pm Poster session and reception with hors d’oeuvres**

**Friday August 19**

**Palmer Commons, Forum Hall**

**9:00am**

***Predicting Fatigue Behavior***

**Modeling fatigue in metals**

Guest Speaker: David McDowell, Georgia Institute of Technology

**Modeling low cycle fatigue in Mg alloys**

Christian Heinrich, John Allison and Veera Sundararaghavan

**Quantifying fatigue characteristics in Mg alloys**

Jake Adams, John Allison, Wayne Jones

**Using PRISMS Tools to** **model Fatigue Crack Propagation in Mg Alloys**

Shardul Panwar and Veera Sundararaghavan

***Integration, Collaboration and Information Sharing***

**Materials Commons**

Glenn Tarcea, Brian Puchala, Margaret Hedstrom, Emmanuelle Marquis, H. V. Jagadish and John Allison

**Materials Data Facility**

Guest Speaker: Ian Foster, ChiMad (Invited - not yet confirmed)

***Dislocations and Grain Boundaries***

# Towards dislocation-based models of general interfaces in crystals

Guest Speaker: Michael Demkowicz, Texas A&M University

**Application of** **real space density functional theory to dislocation studies in Al and Mg**

Sambit Das, Phani Motamarri, Shiva Rudruraju and Vikram Gavini

**Evaluation of a phase-field crystal model via grain-boundary energies and structures**

Jason Luce and Katsuyo Thornton

**4:45pm** **Concluding Remarks**

John Allison