CEIMM
Center of Excellence on Integrated Materials Modeling

Annual Review Meeting

Date: May 11th - 12th, 2015

Location: 1605 Elings Hall Conference Room
California NanoSystems Institute (CNSI)
3241 Elings Hall
University of California Santa Barbara, CA 93106-6105

Day 1: May 11, 2015

8:00-8:15AM:	CEIMM Overview	S. Ghosh, CEIMM Director
8:15-8:25AM	Preliminary Comments	C. Woodward, (C. Przybyla) G. Jefferson RX Program Monitors
8:25-8:30AM	Preliminary Comments	F. Fahroo and A. Sayir AFOSR Program Managers
8:30 -9:45 AM	Material Characterization and Analysis	Pollock Group
8:30-9:00AM	3D Data Acquisition by Tri Beam Tomography	W. Lenthe, (M. Echlin)
9:00-9:45 AM	Discussion: Challenges in Acquisition, Processing and Linking 3D Information to Mechanical Models	T. Pollock *M. Uchic, M. Groeber*
9:45 -11:00AM	Micro-scale experiments for model calibration and validation	Hemker Group
9:45-10:15AM	Micro-mechanical characterization of Ni-base Superalloys	D. Eastman
10:15-10:30AM	Micro-mechancial characterization of PMC's	K. Kemker
10:30-11:00AM	Discussion: Micro-scale experiments: An overview	K. Hemker *M. Uchic, P. Shade*
11:00 -12:00PM	Micromechanics and Multi-Scale Modeling	Ghosh Group: Metals
11:00-11:30AM	Multi-scale Modeling of Ni-Based Superalloy	G. Weber, A. Fox
11:30-12:00PM	Discussion: Multi-scale modeling of Superalloys	S. Ghosh *C. Woodward, M. Uchic*
12:00 -1:30PM	**Lunch**	
1:30 -2:45PM	Discrete dislocations dynamics to discrete polymer chain-network dynamics modeling	El-Awady Group
1:30-2:00PM	Correlating Free-Volume Evolution to Plastic Deformation in Highly Cross-Linked Polymers from Large Scale Coarse-Grained Simulations	A. Aramoon
2:00-2:45PM	Discussion: Discrete Network Dynamics: From Dislocation to Polymer Chains Simulations	J. El-Awady *C. Woodward*
2:45 -3:45PM	Micromechanics and Multi-Scale Modeling	Ghosh Group: Composites
2:45-3:15PM	PM Composites: RVE and Boundary Conditions	D. Kubair
3:15-3:45PM	Discussion: Failure in Polymer Matrix Composites	S. Ghosh *G. Jefferson, (C. Przybyla)*

3:45 -5:00PM	Imaging, Quantitative Characterization and experiments for model calibration	Sottos Group
3:45-4:30PM	Carbon Fiber/Epoxy Interfacial Properties Development of Tow-Level Characterization Experiments Measurement of local strains in composites under transverse loading conditions	C. Montgomery A. Wilhelmsen
4:30-5:00PM	Discussion: Microscale Experiments on Composites for Calibration and Validation	N. Sottos *G. Jefferson, (D. Mollenhauer)*
5:00 -5:30PM	Discussions on Directions and Progress	AFOSR PM
6:00PM	**Dinner**	**Goleta Beach**

Day 2: May 12, 2015

9:00 -10:15AM	Computational Micromechanics and Multi-Scale Modeling	Geubelle Group
9:00-9:35AM	Isogeometric NURBS-based Interface-enriched Generalized FEM (NIIGFEM) modeling of heterogeneous materials	M. Safdari
9:35-9:50AM	Effect of microstructural statistics on failure of unidirectional composites	S. Zacek
9:50-10:15AM	Discussion: Multi-scale modeling of PMCs:	P. Geubelle *G. Jefferson, (D. Mollenhauer)*
10:15 -11:45 PM	Uncertainty quantification methods with experimental data and computational models	Graham-Brady Group
10:15-11:00PM	Probabilistic characterization and stochastic simulation of 3D polycrystalline microstructures	K. Teferra
11:00-11:45PM	Discussion: Uncertainty quantification	L. Graham Brady *M. Uchic, M. Groeber*
11:45 -1:15PM	**Lunch**	
1:15 -2:45 PM	Perspectives from the Advisory Board	
	Pratt &Whitney, GE Global Research, Lockheed Martin, Sandia	
2:45 -3:30PM	Discussions on Directions, Progress and Integrations	
	AFRL Program Monitors and AFSOR Program Managers	
3:30 -3:45PM	Closing Summary	S. Ghosh
4:00-5:00PM	Overview on MURI on Managing the Mosaic of Microstructures	Prof. Marc De Graef, CMU