

Symposium
on
New Developments in Defects Mechanics

Supported by
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In honor of Professor Michael Ortiz' 60th birthday



Chair: Xanthippi Markenscoff
UCSD

Engineering Building II, Room 479

University of California, San Diego La Jolla, CA
January 18-19, 2014

Program
Saturday, January 18, 2014

Coffee at 9:30 a.m.

9:45 – 10:30	Michael Ortiz, Caltech	<i>“From Defects to Cracks: Optimal Scaling Laws in Ductile Fracture”</i>
10:30 – 11:15	Daryl Chrzan, UC Berkeley	<i>“Ideal Strength, Elastic Anisotropy and Dislocation Plasticity: the Curious Case of Gum Metal”</i>
11:15-11:30	Coffee break	
11:30 – 12:15	Vikram Gavini, U. Michigan	<i>“Large-scale electronic-structure calculations and studies on defects”</i>
12:15-2:00	LUNCH	
2:00-2:30	Fei Zhe, Physics, UCSD	<i>“Electronic and Plasmonic phenomena at graphene grain boundaries”</i>
2:30-3:00	Phanish Suryanarayana, GATech	<i>“Towards the ab-initio study of defects: Coarse-graining Density Functional Theory”.</i>
3:00-3:30	K.S. Kim, Brown U.	<i>“Dislocation emission at grain boundaries studied by nonlinear field projection”</i>
3:30 – 3:45	Coffee break	
3:45 – 4:30	Xanthippi Markenscoff, UCSD	<i>“Dynamic Eshelby Micromechanics” “Annular Inhomogeneities with eigenstrain and interphase modeling”</i>
4:30-5:00	Rodney Clifton, Brown U.	<i>On the Kinetics of Defect Motion</i>
7:00		<i>Dinner</i>

Program
Sunday, January 19, 2014

9:00-9:45	Nasr Ghoniem, UCLA	<i>"Generalized Framework of Defect Dynamics for Plasticity and Fracture."</i>
9:45-10:30	Marcelo Epstein, U. Calgary	<i>"From continuous to discrete dislocations"</i>
10:30-10:45	Coffee break	
10:45 – 11:30	Arash Yavari, GATech	<i>"A Geometric Formulation of the Nonlinear Mechanics of Distributed Defects"</i>
11:30-12:00	Celia Reina, U. Penn	<i>"$F=FeFp$? A kinematic analysis of finite elastoplasticity"</i>
12:00-1:30	Lunch	
1:30-2:15	Jaafar El-Awady, Johns Hopkins U.	<i>"The Genetics of Size-Dependent Dislocation-Mediated Plasticity"</i>
2:15-2:45	Sylvie Aubry, LLNL	<i>"Anisotropic elasticity in dislocation dynamics"</i>
2:45-3:15	Giacomo Po, UCLA	<i>Singularity-free dislocation dynamics with strain gradient elasticity</i>
3:15-3:30	Coffee break	
3:30—4:00	Beñat Gurrutxaga-Lerma, Imperial College, London	<i>"Dynamic Discrete Dislocation Plasticity for the study of Plastic Relaxation under Shock Loading"</i>
4:00-4:30	Marc Meyers, UCSD	<i>"Defects in extreme regimes"</i>
4:30-5:00	Bruce Remington, LLNL	<i>"Material strength and solid-state plasticity at high pressures and strain rates"</i>