

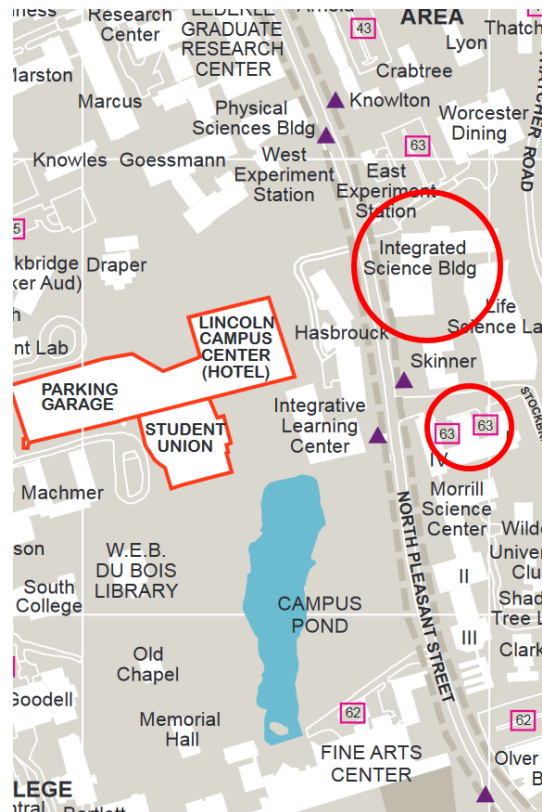
Map

Integrative Sciences Building Room ISB135: Talks and posters. Lunch and reception at the atrium of ISB.

Parking Garage: Parking is located behind the Lincoln Campus Center and in lot 63.

Bus pickup from Cambridge: Buses leave for Amherst at 7am from 77 Massachusetts Avenue.

Bus pickup from Amherst: Buses leave for Cambridge at 7:00pm from 661 North Pleasant Street, Amherst (in front of ISB) and drop off at 77 Massachusetts Avenue, Cambridge.



NEW.Mech 2019

University of Massachusetts Amherst

Saturday, October 5, 2014



Support

We graciously thank the support of the University of Massachusetts Colleges of Natural Sciences and Engineering, the Department of Polymer Science and Engineering, the Center for UMass/Industry Research on Polymers, the Department of Civil and Environmental Engineering and the Institute for Applied Life Sciences for supporting the poster awards.

Schedule

9:00am - 9:45	Registration and breakfast
9:45 - 10:00	Opening remarks
10:00-10:40	Invited talk: Tal Cohen “Growth, instability, and failure: bringing order into the chaos of natural phenomena”
10:40-11:20	Contributed talks I
11:20-11:50	Coffee break
11:50-12:30pm	Contributed talks II
12:30-2:10	Lunch and Poster session
2:10-2:50	Invited talk: Jae-Hwang Lee “Microbaldistics: An emerging opportunity for quantitative extreme mechanics of nanomaterials”
2:50-3:20	Coffee break
3:20-4:00	Contributed talks III
4:00-4:40	Invited talk: Zhigang Suo “Fatigue resistant materials”
4:40-5:00	IALS Poster prizes presented by IALS director Peter Reinhart Closing Remarks
5:00-7:00	Wine & Cheese Reception <i>ISB Atrium</i>

Contributed Talks

Session I

- Junsoo Kim*, Thermodynamics of imperfect gels
- Chockalingam Senthinathan*, Multi-body finite element simulation of highly compressed microgel-packings
- Hyunki Kim*, Light-driven assembly of nanocomposite gel surfers
- Adam Sliwiak*, An arc-length simulation-based analysis of elastic instabilities in hydrogels
- Hmaed O’Ghaffar*, Topological transition point in an Acoustic-Crackling Crystal
- Qihan Liu*, A viscoelastic beam theory of polymer jets
- Jian Li*, Domain formations and pattern transitions via instabilities in soft particulate composite
- Shihong Li*, Continuum modeling of size-segregation in dense, bidisperse granular materials
- Chris Barney*, Fracture of model end-linked networks
- Kim Hyeongjun*, Low-voltage reversible electro-adhesion of Ionoelastomer junctions

Session II

- Teng Zhang*, Harnessing energy landscape exploration to control the buckling of cylindrical shells
- Kshitij Kumar Yadav*, Imperfection insensitivity of thin wave cylindrical shells under axial compression or bending
- Emmanuel Viot*, Non-destructive prediction of the buckling load of imperfect shells
- Jacob Merson*, Using generalized boundary conditions to reduce model size in multiscale modeling of collagen tissue

Contributed Talks

Session II (cont.)

- Changyeob Baek*, Unravelling the mechanics of a clasp between two contacting filaments
- Xudong Liang*, Programming impulsive deformation with mechanical metamaterial
- Bryan Ovelheiro*, Consideration of 3D printed biofilm carriers for wastewater treatment
- Matthew Giso*, Sculpting high aspect ratio crystals from an oil in water emulsion
- Zhaoyu Xie*, Percolation governs order to disorder transition for two-dimensional dense particle packing

Session III

- Gary Choi*, Geometric and topological control of kirigami
- Yi Yang*, Delicate high precision grasping with a kirigami shell gripper
- Jiawei Tian*, Designing ferromagnetic soft robots (FerroSoRo) with Level-Set-Based Multiphysics Topology optimization
- Xiaoqiang Xu*, Topology optimization of multimaterial thermoelectric structures
- Jun Li*, Modeling anisotropic elastic and fracture properties of 3D printed polymers
- Pinkeh Malhotra*, High-speed microscopic imaging of dynamic failure events
- Anup Dey Anita*, Oscillations of a cantilevered micro beam driven by a viscoelastic flow instability
- Maysam Gorji*, Towards a neural network approach to describe the constitutive modeling of a material
- Yecheng Wang*, Instant, tough, noncovalent adhesion

Poster Session

- 1 *Peter Yichen Chen*, Simulating Granular Shear Localization Using a Hybrid Discrete-Continuum Approach
- 2 *Ahmed Elgailani*, Shear shock evolution in incompressible soft solids
- 3 *Pavida Charoen-Rajapark*, Capturing electric-field induced surface instabilities of soft dielectrics with fluorescence confoca
- 4 *Wanliang Shan*, Dynamic dry adhesion through subsurface pressure modulation
- 5 *Hares Wahdat*, Polymer interdiffusion in ionically cross-linked, water-borne acrylic PSAs studied with FRET
- 6 *Sacchita Tiwari*, Laser-induced cavitation dynamics of polydimethylsiloxane with varying cross-linking density and mol
- 7 *Xiaoxiao Xiang*, Non-uniform curvature and anisotropic deformation control wrinkling patterns on tori
- 8 *Zhiqiang Shen*, Interplay between ligand mobility and nanoparticle geometry during cellular uptake of PEGylated lipo
- 9 *Rojin Ghandriz*, Model-based process optimization
- 10 *Cynthia Bukowski*, Entanglement of mechanical properties of ultra-thin glassy polymer films
- 11 *Baohong Chen*, Molecular staples for tough and stretchable adhesion in integrated soft materials
- 12 *Shyamal Kishore*, Underwater dynamic collapse of sandwich composite structures integrated soft materials
- 13 *Irine NEBA Mforsoh*, Constitutive compressive behavior of polyurea with exposure to aggressive marine environments

Poster Session (cont.)

- 14 *Fani Derveni*, High-fidelity finite element modeling of cold-formed steel shear walls
- 15 *John Farah*, Rapid wafering of wide bandgap substrates
- 16 *Fan Lie*, Effect of interface width and printing orientation on tensile properties of 3D printed interfaces
- 17 *Lucia Stein-Montalvo*, Circumferential buckling of the confined d-cone
- 18 *Chen Chao*, Flower inspiration: iridescence through hierarchical wrinkles in soft multilayers
- 19 *Arman Guerra*, Emergence of structure in elastogranular columns
- 20 *Koray Senol*, Underwater mechanical response of foams
- 21 *Hao Wu*, Mechanically-mediated interactions between solid domains in composite vesicles
- 22 *Zi Chen*, A reconfigurable biohybrid soft robot with remote control
- 23 *Schicheng Huang*, Controllable shape changing and tri-stability of bilayer composite
- 24 *Hongbo Fu*, Needle-induced liquid deposition in soft material
- 25 *Kshitij Kumar Yadav*, Imperfection insensitivity of thin wavy cylindrical shells under axial compression or bending
- 26 *Junbo Chen*, Harnessing energy landscape exploration to control the buckling of cylindrical shells

