



The Next Generation Paper Machines

WORKSHOP: Advancing Foundational Technologies to Improve the Bottom Line

Approved abstracts – Poster session will be held Thursday, Feb. 28, 2019, from 12:30 to 2 p.m.

School of Chemical and Biomolecular Engineering (ChBE)

Chaoyi Chang, *Understanding biomass molecules and reactions by machine learning and molecule context*

Dudick, Sumner, *Fabrics with three-dimensional wetting gradients for improved dewatering*

Fu, Qiang, *Separation of complex multicomponent organic mixtures: Addressing a critical gap in biorefining and chemical recovery from pulping processes*

Kim, Jinhyeun, *Machine learning methods for analysis of streaming big data to improve pulp and paper production systems*

Ringania, Udit, *Scalable, low-cost, and energy-efficient nanocellulose drying using ultrasonic transducers*

Satam, Chinmay, *Commercialization strategies for renewable multilayer chitin nanofiber and cellulose nanocrystal barrier films*

Wang, Zhongzhen, *Tunable graphene oxide membranes for energy-efficient black liquor concentration*

Wong, Helen, *Flexible batteries on cellulose-based substrates for smart packaging and the Internet of Things*

School of Mechanical Engineering (ME)

Collins, Asher, *Simulating fluid flow in deformable porous media for advancement of paper forming, with a focus on the press section*

Gong, Xuejian, *Big-data driven predictive analytics for energy and water flow modeling in factory loading planning and optimization*

KimmeI, Daniel, *The acoustic and thermal properties of CNC materials*

Peng, Xirui, *3D printing high-performance CNC-reinforced thermoset composites*

School of Materials Science and Engineering (MSE)

Chen, Junhe, *Property enhancement and processing by cellulose carbonization*

Hanson, Kasey, *Corrosion control in superheaters to increase kraft recovery boiler efficiency*

He, Liang, *Pitting corrosion behavior of lean duplex stainless steels in chloride and thiosulfate containing environments*

Khan, Nasreen, *Polyelectrolyte complex coacervate interactions with cellulose nanofibrils*

Lang, Augustus, *Electrochromic displays fabricated on chitin nanofiber/nanocellulose barrier films*

Li, Yi, *Water stability study of nanocellulose film modified with ALD technology*

Na, Yoon Joo, *Relationships between deformation fields and fracture in heterogeneous cellulose fiber network*

Paluskiewicz, Sarah, *Planarity of deformation and representative volume elements of heterogeneous network thin films*

Yu, Jiwoo, *Low-cost, environmental benign manufacturing of inorganic nanoparticles/cellulose composites for water treatment*

Zhang, Mingyue, *Cellulose-based nanocomposites with ambient-light-activated biocidal properties for food packaging*