



# 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*

**KimmeL, 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*