# PURDUE PROCESS SAFETY AND ASSURANCE CENTER (P2SAC) AGENDA FOR SPRING 2019 FLOW ASSURANCE CONFERENCE

## Thursday, May 9, 2019 (Day 3 of 3)

## Wilmeth Active Learning Center, WALC B058
## (All presentations are invited talks)

**7:15-7:45      Coffee, tea, and pastries**

7:45-8:00      Osman Basaran (Academic Director P2SAC, Purdue):  Welcome, overview, history of P2SAC, and goals of the flow assurance conference

**Ink jets:  fluid mechanics and materials issues [chair:  Bhat]**

8:00-8:40      Prof. Xiang Cheng, University of Minnesota--- Dynamics of drop impact on solid surfaces: evolution of impact force and self-similar spreading (plenary lecture)

8:40-9:10      Chris Menzel, Fuji Dimatix---General ink jet talk

9:10-9:40      Chien Hsu, BASF---Materials issues in ink jet printing

9:40-10:05     Letian Dou, Purdue---Printing flexible electronics

**10:05-10:25   Break and group photos**

**Flow assurance in oil & gas, chemical, and diversified manufacturing industries (Part 1) [chair:  Garg]**

10:25-10:50    Lee Rhyne, Chevron---Flow assurance in the oil patch

10:50-11:20    Arun Selvaraj Kousalya, Shell--- Integrated process model for Caisson subsea separators

**Electrohydrodynamics [chair:  Christov]**

11:20-11:50    Petia Vlahovska, Northwestern---Equatorial streaming

11:50-12:15    Brayden Wagoner, Purdue:  Simulation of polar and equatorial streaming

**12:15-1:20    Lunch at Purdue Memorial Union (South Ballroom)**

**Flow assurance in oil & gas, chemical, and diversified manufacturing industries (Part 2) [chair:  Garg]**

1:20-1:45    Vishrut Garg, Air Products---Drop and bubble coalescence/impact
1:45-2:10    Jaeyub Chung, Purdue---Surfactants and DST effects in EOR/flow assurance

**Atomization, sprays, jets, and drops:  examples from agriculture and general manufacturing [chair:  Kamat]**

2:10-2:35    Steve Cryer/Madan Somasi, Corteva Agriscience--- Efficacy of crop protection offerings based upon drop sizes and the break-up of sprayed emulsions from flat-fan nozzles
2:35-3:00    Chris Anthony, Convergent Science--- Filament/ligament breakup
3:00-3:25    Pritish Kamat, Dow---Surfactant-laden filament/ligament breakup

**3:25-3:40    Break**

**Catastrophes, singularities, and consequence analysis:  examples from free surface flows, polymer processing, VE flows, and pipeline flows  [chair:  Harriott]**

3:40-4:10    George Harriott, Air Products---Leak detection on gas pipelines and spills
4:10-4:40    Pradeep Bhat, 3M:  Flow assurance in VE free surface flows/polymer processing: simulating the dynamics of drops, jets, and films
4:40-5:05    Chris Anthony, Convergent Science---Adaptive meshing in modeling finite time singularities

**Flows with multiphysics: [chair:  Anthony]**

5:05-5:35    Ivan Christov, Purdue ME--- Flows in deformable conduits:  towards a theory of the response of soft microdevices
5:35-5:55    Brayden Wagoner, Purdue---Complex filament and sheet breakup/rupture
5:55-6:15    Subash Sharma, Purdue NE---Research on two-phase flows using  two-fluid model

**6:30    Dinner at Purdue Memorial Union (South Ballroom)**