

Sunday, June 3, 2018

## ISPAC Short Course: Emerging Trends in Polymer Characterization

7:45	Breakfast – <i>Linden Oak</i>	
8:00	Registration, All Day – <i>Brookside Foyer</i>	
	<b>Neutron and X-ray Techniques <i>Brookside A</i></b>	<b>Advances in Polymer Characterization <i>Brookside B</i></b>
9:00 AM	<b>Elastic Scattering Methods for Characterizing Structure</b> Michael Hore, Case Western Reserve University	<b>Introduction to interaction-based separations: IC, LCCC and 2D-LC</b> Taihyun Chang, Pohang University
10:30 AM	<i>Break</i>	
10:45 AM	<b>Inelastic scattering methods for characterizing mobility</b> Yun Liu, NIST	<b>Introduction to size-based separations: SEC, HDC, FFF, and detection methods</b> Andre Striegel, NIST
12:00 PM	<i>Lunch (Linden Oak)</i>	
1:00 PM	<b>Imaging Soft Materials with X-rays and Neutrons</b> Daniel Hussey, NIST	<b>Emerging Trends in Rheology</b> Anthony Kotula, NIST
2:30 PM	<i>Refreshment Pause</i>	
2:45 PM	<b>Rheology and Small Angle Scattering</b> Kathleen Weigandt, NIST	<b>Polymer Science and Advanced Solid State NMR</b> Ryan Nieuwendaal, NIST
6:00 PM	Reception – Forest Glen	

Monday, June 4, 2018

- 7:00 Registration, All Day – **Grand Foyer**  
Vendor Exhibition, All Day – **Grand Foyer**
- 7:00 Breakfast – **Salon H**
- 8:00 AM Opening Remarks – Dr. Ronald Jones and Prof. Wayne Reed
- 8:15 AM Materials Science at NIST – Dr. Eric Lin, Director, Material Measurement Laboratory, NIST

### Morning Session: Advances in Polymer and Soft Materials Rheology

#### Plenary Lectures – Salon F/G

- 8:30 AM M.01 - DowDuPont Lecture  
*Polyethylene topology and rheology control for recycling applications*  
Jaap den Doelder, DowDuPont
- 9:00 AM M.02 - *Predicting the Linear and Non-Linear Rheology of Polydisperse Linear Polymers*  
Daniel Read, University of Leeds
- 9:30 AM M.03 - *Toward in situ morphology characterization of polymeric fluids under arbitrary processing flows*  
Matthew Helgeson, University of California Santa Barbara
- 10:00 AM Rheology Discussion Panel – den Doelder, Read, Helgeson

10:30 AM *Refreshment Pause*

#### Deformation of Soft Materials

##### Salon F

- 11:00 AM M.11 – Kotula, A.
- 11:20 AM M.12 – Cotts, S.
- 11:40 AM M.13 – Kaur, G.
- 12:00 PM M.14 – Ali, S.

#### Characterization with Chromatography

##### Salon G

- M.15 – Uliyanchenko, E.
- M.16 – Rasmussen, C. J.
- M.17 – Lohmann, D.
- M.18 – Janco, M.

12:20 PM *Buffet Lunch - Salon H*

12:30 PM V.1 – Ondax (sponsored presentation)

##### Salon G

12:50 PM Poster Setup V.2 – Tosoh (sponsored presentation)

##### Salon G

1:10 PM V.3 – Waters (sponsored presentation)

##### Salon G

## Afternoon Session: Advancing Materials Science with Big Data

### Plenary Lectures - Salon F/G

- 2:00 M-04 – *Scoping the Polymer Genome: A Roadmap for Rational Polymer Dielectrics Design and Beyond*  
Rampi Ramprasad, Georgia Institute of Technology
- 2:30 M.05 – *Towards Polymer Informatics: Databases, Infrastructure and Beyond*  
Debra Audus, NIST
- 3:00 M.06 – *Materials-Specific Considerations for Machine Learning*  
Bryce Meredig, Citrine Informatics
- 3:30 Big Data Discussion Panel
- 4:00 *Refreshments*

#### Computation and Characterization

##### Salon F

- 4:30 M.21 – Smits, G.  
4:50 M.22 – Martin, T.  
5:10 M.23 – Vargas Lara, F.

#### Molecular Control and Characterization

##### Salon G

- M.24 – Balding, P.  
M.25 – Simonutti, R.  
M.26 – Cheng, H. N.

### Poster Exhibition - White Oak A

Heavy hors d'oeuvres and Open Bar

6:30 – 9:00 - posters

Tuesday, June 5, 2018

- 7:00 Registration, All Day – **Grand Foyer**  
Vendor Exhibition, All Day – **Grand Foyer**  
7:00 Breakfast – **Salon H**

## Morning Session: Advances in Chromatography and Spectroscopy

### Plenary Lectures - Salon F/G

- 8:00 AM T.01 – *Correlated polymer characterization via SEC-IR Detection with a new QCL Laser Spectrometer and SEC-NMR with a new 60 MHz MR-NMR Spectrometer*  
Jennifer Kubel, Karlsruhe Institute of Technology
- 8:30 AM T.02 – *Characterization of Complex Synthetic Polymers by Advanced Separations and Detection Techniques*  
David Meunier, DowDuPont
- 9:00 AM T.03 – *HPLC Characterization of Block Copolymers*  
Taihyun Chang, Pohang University of Science and Technology
- 9:30 AM Chromatography and Spectroscopy Discussion Panel

10:00 AM *Refreshment Pause*

#### Condensed Phases

##### Salon F

- 10:30 AM T.11 – Noda, I.  
10:50 AM T.12 – Lee, Y. J.  
11:10 AM T.13 – Nowak, S. R.  
11:30 PM T.14 – Yuan, G.

#### Macromolecular Architectures

##### Salon G

- T.15 – Orski, S. V.  
T.16 – Liu, Y.  
T.17 – Arndt, J. H.  
T.18 – Sarapas, J.

11:50 PM *Buffet Lunch – Salon H*

*ISPAC Board Meeting*

**Middlebrook**

- 12:10 PM  
12:30 PM  
12:50 PM

## ISPAC Leaders of R&D Panel Discussion

*“The Next Generation of Characterization Needs in Polymer Science”*

### Salon F/G

- 1:10 PM Pat Brant (ExxonMobil), Naryan Ramesh (DowDuPont), Raj Krishnaswamy (Braskem North America), Peter Maziarz (Pfizer Consumer Health)

Discussion Leader: Eric Lin, Director, NIST Material Measurement Laboratory

## Afternoon Session: Emerging Methods in Scattering

### Plenary Lectures - Salon F/G

- 2:00 Wyatt Technology Lecture  
T.04 – *Structure and Dynamics in Polymer Grafted Nanoparticle Systems*  
Michael Hore, Case Western Reserve University
- 2:30 T.05 – *Recent Advances in X-ray Scattering Methods for Soft Materials*  
Kevin Yager, Brookhaven National Laboratory
- 3:00 Braskem Lecture  
T.06 – *Soft matter structure measurement by Polarized Resonant Soft X-ray Scattering*  
Dean DeLongchamp, NIST
- 3:30 Scattering Discussion Panel
- 4:30
- 4:50
- 5:10

#### Condensed Phase Spectroscopy

##### Salon F

- 5:30 T.21 – Nieuwendaal, R.  
5:50 T.22 – Netto, A. M.  
6:10 T.23 – Mukherjee, P.  
6:30 T.24 - TBA

#### Advances in Chromatography

##### Salon G

- T.25 – Apel, N.  
T.26 – Desport, J.  
T.27 – Yang, D.  
T.28 – Reed, R.

6:45

ISPAC Social Hour  
Hors d'Ouevres and Open Bar  
Grand Ballroom Veranda

7:30

2018 ISPAC Banquet  
Ballroom E

Wednesday, June 6, 2018

7:00 Registration, All Day  
7:00 Breakfast

### Morning Session: Macromolecular Architectures

#### Plenary Lectures - Salon F/G

8:00 AM W.01 – Lian Hutchings, Durham University  
Molecular Engineering with Anionic Polymerization

8:30 AM W.02 – TBA  
Lawrence Sita, University of Maryland

9:00 AM W.03 – TBA  
Nikos Hadjichristidis, KAUST

9:30 AM Architectures Discussion Panel

10:00 AM *Refreshment Pause/Lunch Pickup*

### Tour of the National Institute of Standards and Technology (NIST)

Participants must register for tour through ISPAC website prior to meeting to meet security requirements. Participants will be instructed on identification requirements.

10:30 Bus pickup at Marriot Main Lobby  
11:00 NIST Center for Neutron Research  
12:00 Lunch at NIST Cafeteria (not included in registration) - NIST Overview Presentation  
12:30 NIST Building Materials Laboratory  
1:30 Additive Manufacturing Research Center  
2:30 Arrive at Marriot

End of 2018 ISPAC meeting, see you in Japan!!