26th BEPS – Meeting Schedule

Day 1: 5 June 2019 (Wednesday)

7:30-8:30 am	**Registration & Networking Mini-Breakfast (*CGEC 2nd floor*)**	
8:30-9:00 am	**Opening Ceremony (*AT&T Auditorium*)**	
9:00-10:20 am	**Plenary Session P1 (*AT&T Auditorium*)** **Session Chair**: Ramani Narayan	
9:00-9:40 am	P1.1 – Expanding opportunities in polymer chemistry using biocatalysis **Richard A. Gross** Rensselaer Polytechnic Institute (RPI), USA	
9:40-10:20 am	P1.2 – Sustainable composites for green manufacturing: Recent developments and innovations through circular approach **Amar Mohanty** University of Guelph, Canada	
10:20-10:40 am	**Coffee Break (*CGEC 2nd floor*)**	
10:40 am – 12:00 noon	**Plenary Session P2 (*AT&T Auditorium*)** **Session Chair:** Amar Mohanty	
10:40-11:20 am	P2.1 – Challenges and opportunities in plastic upcycling **Gregg Beckham** National Renewable Energy Laboratory, USA	
11:20 am-12:00 noon	P2.2 – Understanding biodegradability in the context of plastics waste management – Important learnings **Ramani Narayan** Michigan State University, USA	
12:00-1:30 pm	**Lunch (*TD Gallery*)**	
1:30-3:00 pm	**Concurrent Sessions**	
	S1 (*AT&T Auditorium*) **Biodegradability & Sustainability** **Session Chair:** Ryan Cecily	**S2 (*CGEC 401*)** **Bio-based Coatings** **Session Chair:** Long Jiang
1:30-2:00 pm	**Keynote talk** S1.1 – Glass fiber and carbon nanotube reinforced polymer composites **Veera Boddu** U.S. Department of Agriculture, USA	**Keynote talk** S2.1 – Starch-based coatings for protecting structures from fire **Greg Glenn** U.S. Department of Agriculture, USA

2:00-2:30 pm	**Invited Speaker** S1.2 – When worlds collide: Relationships between the life-cycle of biodegradable plastic mulches and ecosystems **Douglas G. Hayes** University of Tennessee, USA	**Invited Speaker** S2.2 – Fibrillated nanocellulose based sustainable technology for functional textile coatings **Sergiy Minko** University of Georgia, USA
2:30-3:00 pm	**Invited Speaker** S1.3 – Advances in biomass mechanical preprocessing and thermal pretreatments: Improvements in physical properties and chemical composition **Jaya Shankar Tumuluru** Idaho National Laboratory, USA	S2.3 – Plant-oil derived emulsion copolymers towards high performance coating applications **Meghan E. Lamm** University of South Carolina, USA
3:00-3:20 pm	**Coffee Break (*CGEC 2nd floor*)**	
3:20-5:10 pm	**Concurrent Sessions**	
	S1 (*AT&T Auditorium*) **Biodegradability & Sustainability** **Session Chair:** Douglas G. Hayes	**S3 (*CGEC 401*)** **Modifications in Polymer Processing** **Session Chair:** Manjusri Misra
3:20-3:50 pm	**Invited Speaker** S1.4 – Developing the separations strategy for biorefining – New materials, adsorption and membrane systems, and process developments **Sankar Nair** Georgia Institute of Technology, USA	**Invited Speaker** S3.1 – Interfacial healing and transport phenomena modeling of biopolymers **David Grewell** North Dakota State University, USA
3:50-4:20 pm	**Invited Speaker** S1.5 – Processing and biodegradation of composites reinforced with agricultural and forest byproducts **Ryan Cecily** Montana State University, USA	**Invited Speaker** S3.2 – Comparing co-rotating twin screw extruder feeding and melting zones for PLA and PHA resins **Charlie Martin** Leistritz Extrusion, USA
4:20-4:50 pm	S1.6 – Effect of environmental weathering on microbial assimilation of biodegradable plastic mulches under ambient soil and composting conditions **Marife Anunciado** University of Tennessee, USA	**Invited Speaker** S3.3 – Chemoenzymatic polymerization and photosynthetic bacterial synthesis of artificial structural protein polymers **Keiji Numata**

		Center for Sustainable Resource Science, Japan
4:50-5:10 pm	S1.7 – The biodegradability and impact on the local microbiome of microparticles shed during laundering of textiles **Marielis Zambrano** North Carolina State University, USA	S3.4 – Feeding difficult flowing and fibrous ingredients in bioplastic production **Andy Kovats** Brabender Technologie, USA
5:30-8:00 pm	**26th BEPS Poster session – Hors d'oeuvres, Wine & Beer (*TD Gallery*)**	

Day 2: 6th June 2019 (Thursday)

7:30-8:45 am	**Registration & Networking Mini-Breakfast (*CGEC 2nd floor*)**	
8:45-9:00 am	**Introductory Remarks (*AT&T Auditorium*)**	
9:00-10:20 am	**Plenary Session P3 (*AT&T Auditorium*)** **Session Chair:** John La Scala	
9:00-9:40 am	P3.1 – Rubber biocomposites made with new and sustainable processing aids and waste-derived fillers yield new performance opportunities **Katrina Cornish** Ohio State University, USA	
9:40-10:20 am	P3.2 – Tuning macromolecular topologies and compositions towards robust sustainable polymers **Chuanbing Tang** University of South Carolina, USA	
10:20-10:40 am	**Coffee Break (*CGEC 2nd floor*)**	
10:40 am-12:00 noon	**Plenary Session P4 (*AT&T Auditorium*)** **Session Chair:** Greg Glenn	
10:40-11:20 am	P4.1 – Processing lignin with renewable, one-phase, organic-aqueous solvents: Enabling higher-value applications **Mark Thies** Clemson University, USA	
11:20 am-12:00 noon	P4.2 – The sustainable role of wood refinery in polymeric materials **Youssef Habibi** Luxembourg Institute of Science and Technology, Luxembourg	
12:00-1:30 pm	**Lunch (*TD Gallery*)**	
1:30-3:00 pm	**Concurrent Sessions**	
	S4 (*AT&T Auditorium*) **Synthesis of biopolymers** **Session Chair:** Chuanbing Tang	**S5 (*CGEC 401*)** **Applications of biobased materials** **Session Chair:** Joseph Lawrence
1:30-2:00 pm	**Keynote Talk** S4.1 – Approaches towards catalyst-free preparation of epoxy vitrimers **Jinwen Zhang** Washington State University, USA	**Keynote Talk** S5.1 – Innovations in nanostructured biobased polymers: Challenges and opportunities **Manjusri Misra** University of Guelph, Canada

2:00-2:30 pm	**Invited Speaker** S4.2 – Synthesis of biobased building blocks from cashew nutshell liquid: A chemical platform approach for polymer synthesis **Sylvain Caillol** CNRS, France	**Invited Speaker** S5.2 – Glycerin-based thermoplastics for adhesive applications **Eric Cochran** Iowa State University, USA
2:30-3:00 pm	**Invited Speaker** S4.3 – Next-generation SLA 3D printing resins derived from renewable resources **Joseph Stanzione** Rowan University, USA	**Invited Speaker** S5.3 – Compounding of water soluble support material for additive manufacturing **Daniel Schwendemann** HSR Hochschule für Technik Rapperswil, Switzerland
3:00-3:20 pm	**Coffee Break (*CGEC 2nd floor*)**	
3:20-5:30 pm	**Concurrent Sessions**	
	S4 (*AT&T Auditorium*) **Synthesis of biopolymers** **Session Chair:** Jinwen Zhang	**S6 (*CGEC 401*)** **Lignin-based polymers/materials** **Session Chair:** Gregg Beckham
3:20-3:50 pm	**Invited Speaker** S4.4 – Polyesters from biobased monomers: Challenges and opportunities **Joseph Lawrence** University of Toledo, USA	**Invited Speaker** S6.1 – Examples of lignin valorization in polymer composites **Adriana Kovalcik** Brno University of Technology, Czech Republic
3:50-4:20 pm	**Invited Speaker** S4.5 – Modeling of bamboo fiber reinforced composites **Mihaela Banu** University of Michigan, USA	**Invited Speaker** S6.2 – Solvent selection for lignin value prior to pulping **Andreas Bommarius** Georgia Institute of Technology, USA
4:20-4:50 pm	**Invited Speaker** S4.6 – Carbonizing biomass for high value uses via various carbonization methods **Long Jiang** North Dakota State University, USA	**Invited Speaker** S6.3 – New avenues for lignin: Lignin-derived advanced materials **Sreeprasad Sreenivasan** University of Texas (El Paso), USA

4:50-5:10 pm	S4.7 – Manipulating structure and composition of epoxy vitrimer for diverse properties and applications **Tuan Liu** North Dakota State University, USA	S6.4 – Green routes to non-isocyanate polyurethanes from lignin: Synthesis, characterization and life-cycle analysis of lignin-derived cyclic carbonates and bio-based diamines **James Sternberg** Clemson University, USA
5:10-5:30 pm	S4.8 – β-Ketoadipic acid as a platform molecule **Nicholas Rorrer** National Renewable Energy Laboratory (NREL), USA	S6.5 – Optically active heteroatom-doped carbon dots from lignin **Saptasree Bose** University of Texas (El Paso), USA
5:30-6:30 pm	**A Tour of CU-ICAR**	
6:30-9:30 pm	**26th BEPS Banquet, Networking Reception & Awards Ceremony (*TD Gallery*)**	

Day 3: 7th June 2019 (Friday)

7:30-8:45 am	**Registration & Networking Mini-Breakfast (*CGEC 2nd floor*)**	
8:45-9:00 am	**Introductory Remarks (*AT&T Auditorium*)**	
9:00-10:20 am	**Plenary Session P5 (*AT&T Auditorium*)** **Session Chair:** Youssef Habibi	
9:00-9:40 am	P5.1 – Approaches for incorporating cellulose nanocrystals into polymer matrices **Meisha Shofner** Georgia Institute of Technology, USA	
9:40-10:20 am	P5.2 – Bio-derived and biomaterials for structural additive manufacturing **John La Scala** Army Research Laboratory, USA	
10:20-10:40 am	**Coffee Break (*CGEC 2nd floor*)**	
10:40 am – 12:30 pm	**Concurrent Sessions**	
	S7 (*AT&T Auditorium*) **Cellulose-based materials** **Session Chair:** Sergiy Minko	**S8 (*CGEC 401*)** **Bio-based composites** **Session Chair:** David Grewell
10:40-11:10 am	**Keynote Talk** S7.1 – Cellulose-based aerogels and membranes: Oil-water separation and barrier packaging applications **Yulin Deng** Georgia Institute of Technology, USA	**Keynote Talk** S8.1 – Development of hybrid recycled carbon and natural fiber PLA composites **Chad Ulven** North Dakota State University, USA
11:10-11:40 am	**Invited Speaker** S7.2 – Molecular interactions with cellulose: Polyelectrolyte complexes to CNC surface modification **Blair Brettmann** Georgia Institute of Technology, USA	**Invited Speaker** S8.1 – Monomers and biopolymers from renewable lipids **Aman Ullah** University of Alberta, Canada
11:40 am-12:10 pm	**Invited Speaker** S7.3 – Sustainable packaging inspired by cellulose and chitin **Carson Meredith** Georgia Institute of Technology, USA	S8.3 – Harnessing the power of photons in processing natural fiber reinforced green composites **Adhimoolam Bakthavachalam Kousaalya** Clemson University, USA

12:10-12:30 pm	S7.4 – Development of new cellulosic fibers for technical applications using IL-Technology **Georgios Mourgas** Deutsche Institute für Textil- und Faserforschung Denkendorf, Germany	S8.4 – Low cost bio-sorbents from keratin biopolymers for the treatment of wastewater produced during energy generation **Irum Zahara** University of Alberta, Canada
12:30-2:00 pm	**Box Lunch & Closing Ceremony (*TD Gallery*)**	

Poster Presentations at 26th BEPS

S. No.	Presenter – Name & Affiliation	Title of Poster
1.	**Richard Venditti** North Carolina State University, USA	Non-conventional sustainability indicators for biopolymers
2.	**Aruna N Nair** University of Texas (El Paso), USA	Lignin-derived nanocarbonaceous electrocatalysts
3.	**Jyoti Ahlawat** University of Texas (El Paso), USA	Chitosan-based drug encapsulation system for prevention of Parkinson disease in rotenone induced mechanism
4.	**Tuan Liu** Washington State University, USA	Preparation of smart poly(lactic acid) inspired by vitrimer chemistry: Toughening, light emitting, and shape memory
5.	**Anton Friedrich Astner** University of Tennessee, USA	Novel methodology to form micro- and nano-plastics from agricultural films and their dimensional, thermal and chemical characterization
6.	**Rehan Pradhan** University of Alberta, Canada	Transmutation of renewable and waste lipids into valuable polymer precursors using solvent-less ethenolysis
7.	**Youssef Habibi** Luxembourg Institute of Science and Technology, Luxembourg	Formulation and UV curing of bio-based composites for wood mimic properties
8.	**Youssef Habibi** Luxembourg Institute of Science and Technology, Luxembourg	Formulation and processing wood-like biobased and biodegradable polyesters/cellulose composite
9.	**Qian Ma** North Dakota State University, USA	Improving strength and biocompatibility of bacterial cellulose scaffold using silk fibroin for cartilage tissue engineering
10.	**Qian Ma** North Dakota State University, USA	Comparative study of zein- and gluten-based wood adhesives containing cellulose nanofibers and crosslinking agent for improved bond strength
11.	**Meghan E Lamm** University of South Carolina, USA	Controlling macromolecular architectures for biomass polymers towards enhanced mechanical properties
12.	**Lin Fu** University of South Carolina, USA	Designing architectures for biomass polymers towards good mechanical properties

13.	**Manjusri Misra** University of Guelph, Canada	3D-Printing of biodegradable polymeric blends by fused deposition modelling (FDM): Processing and characterization
14.	**Amar Mohanty** University of Guelph, Canada	Sustainable composites from biobased engineering plastic and biocarbon from waste peanut hulls
15.	**Graham Tindall** Clemson University, USA	Fractionated, solvated and ultraclean lignins: Precursors for high-performance carbon fibers
16.	**Junhuan Ding** Clemson University, USA	Renewable coatings and foams from low molecular weight fractions of the biopolymer lignin