

Program

Wednesday, December 1, 2021

4:00 PM REGISTRATION BEGINS

5:00 PM WELCOME RECEPTION

Thursday, December 2, 2021

8:00 AM CONTINENTAL BREAKFAST

LECTURE SESSION I SSQ SYNTHESIS & ARCHITECTURE

9:00 AM **Annelise Franz**, University of California, Davis
Rodium-catalyzed Carbene Insertions into Si-H Bonds for the Synthesis of Functionalized Silsesquioxane Nanomaterials **1**

9:30 AM **Michel Wong-chi-man**, ICGM France
Functional Bridged Silsesquioxanes **2**

10:00 AM **Andre Lee**, Michigan State
Recent Developments to Asymmetric Functionalized Double-Decker Shaped Silsesquioxanes **3**

10:30 AM BREAK

LECTURE SESSION II PHOTOACTIVE Si-CONTAINING POLYMERS

10:45 AM **Rick Laine**, Michigan
Conjugation where it shouldn't be **4**

11:15 AM **Joe Furgal**, BGSU
Silicon-based Hybrid Polymers from Photochemical Responses to Catalytic Recycling **5**

11:45 AM **Shahrea Mahbub**, BGSU
Synthesis and Photophysical Property Analysis of Beads on a Chain (BoC) Silsesquioxane Fluorescent Oligomers **6**

12:15 PM **MengLee Tang**, The University of Utah
Expanding Photon Upconversion to Silicon Nanocrystal Light Absorbers **7**

12:45 PM END AM SESSION, LUNCH ON YOUR OWN

Thursday, December 2, 2021, CONT'D

LECTURE SESSION III
SSQ SYNTHESIS & ARCHITECTURE 2

4:00 PM	Tom McCarthy , U Massachusetts <i>Reactive Oligomeric Phenylsilsesquioxane-based MT Resins and Comments on the Structures of Phenylsilsesquioxane Homopolymer</i>	8
4:30 PM	Nai-hsuan Hu , BGSU <i>HFormation of Nanostructured Silicas through the Fluoride Catalysed Self-Polymerization of Q-type Silsesquioxane Cages</i>	9
5:00 PM	Paul Zelisko , Brock University <i>Bio-Inspired Structured Silicone Materials via Chemoenzymatic Syntheses</i>	10
5:30 PM	<i>BREAK</i>	

LECTURE SESSION IV
SILICON HYBRIDS FOR OPTICAL & ENERGY

5:45 PM	Byeong-Soo Bae , Korea Advanced Institute of Science and Technology (KAIST) <i>Sol-Gel Derived Polymer-Siloxane Hybrid Materials for Optoelectronic and Display Applications</i>	11
6:15 PM	Claire Hartmann-Thompson , 3M <i>Styrene-Butadiene-Styrene (SBS) Block Copolymers with Pendant Carbosilane-Ionomer Functionality for Elastomeric Anion Exchange Membranes (AEMs)</i>	12
6:45 PM	Hemali Rathnayake , UNC-Greensboro <i>Bioinspired Silicon-based Nanocomposites for Solid-State Ionic Conduction</i>	13
7:15 PM	<i>POSTER SESSION</i>	
	<i>END DAILY EVENTS</i>	

Friday, December 3, 2021

8:00 AM CONTINENTAL BREAKFAST

**LECTURE SESSION V
SHORT COURSES**

9:00 AM **Anne Skov**, DTU

9:45 AM **TBD**

10:30 AM *BREAK*

10:45 AM **Ken Wynne**, VCU

11:30 AM **Michael Brook**, McMaster U

12:15 PM *END AM SESSION, LUNCH ON YOUR OWN*

**LECTURE SESSION VI
SILICONE ELASTOMERS, ADHESIVES & SURFACES**

3:00 PM **Michael Brook**, McMaster U
Strategies for Silicone Elastomer Sustainability: Fewer Covalent Bonds **14**

3:30 PM **Anne Skov**, DTU
Highly stretchable or extremely soft silicone elastomers from the same chemistry **15**

4:00 PM **Todd Pangburn**, DuPont Larkin Laboratory
DuPont™ Liveo™ Healthcare: Innovations in Silicone Elastomers and Adhesives **16**

4:30 PM **Ken Wynne**, VCU
Novel Silicone Surface Science: an Early Stage Approach to Commercialization **17**

5:00 PM *BREAK*

**LECTURE SESSION VII
SILICONE PROCESSES**

5:15 PM **Kwan-Soo Lee**, Los Alamos National Laboratory
Impact of Filler Composition on Mechanical and Dynamic Response of 3-D Printed Silicone-Based Nanocomposite Elastomers **18**

Friday, December 3, 2021, cont'd

5:45 PM	Tim Long , Arizona State University <i>Tailoring Siloxane Reactivity, Rheology, and Resolution for Lithographic 3D Printing</i>	19
6:15 PM	AJ Boydston , Wisconsin <i>New Approaches for AM with Thermosets</i>	20
6:45 PM	Petar Dvornic , Pittsburg State University <i>"All-in-One" Silicone Pastes for Additive Manufacturing</i>	21
7:15 PM	Thomas Wilson , LLNL <i>A decade of innovation in direct ink write siloxanes</i>	22
7:45 PM	SESSION ENDS	

Saturday, December 4, 2021

8:00 AM	CONTINENTAL BREAKFAST	
LECTURE SESSION VIII FUNCTIONAL SILICAS & CERAMICS		
9:00 AM	Jaime Grunlan , TAMU <i>Oxygen and moisture barrier and flame retardancy from polyelectrolyte-clay nanocoatings</i>	23
9:30 AM	Barry Arkles , Gelest <i>TBD</i>	24
10:00 AM	Kerry DeMella , Gelest <i>Functional Gradient Glass/Ceramic Structures for Open-Space Microfluidics – A Bottom-up Fabrication Technology</i>	25
10:30 AM	Luigi Giancarlo Corti , Miami University <i>Fluoro-silane functionalization of silica nanosprings for hydrocarbon</i>	26
11:00 AM	Jonathan Goff , Gelest <i>TBD</i>	27
11:30 AM	CLOSING REMARKS	
