



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

Technical Full-Team Working Meeting of Polymer Additive Manufacturing Consortium

Haslam Business Building (HBB) Room 102

University of Tennessee

June 19 & 20, 2019

AGENDA

Wednesday, June 19

- 8:00 a.m. Arrival and Coffee
- 8:25 a.m. Welcome and Agenda
Mark Dadmun (UT)
- 8:30 a.m. Polymer AM Consortium Overview
Jamie Messman (KCNSC)
- 8:40 a.m. KCNSC Technical Consortia and External R&D
Ambrose Wolf (KCNSC)
- 8:50 a.m. Brief Introductions
- 9:00 a.m. Non-Radical Curing for Direct Write 3D Printing
Ron Smaldone (UT-Dallas)
- 9:30 a.m. Additive manufacturing of low-density polymer foams and cellular structures
Brett Compton (UT- Knoxville)

BIG ORANGE. BIG IDEAS.

Flagship Campus of the University of Tennessee System 

- 10:00 a.m. Reprocessable Polyurethane Networks Towards Additive Manufacturing
Will Dichtel (Northwestern)
- 10:30 Break
- 10:45 a.m. Reactive Processing in Extrusion Based Additive Manufacturing
Mark Dadmun (UT-Knoxville)
- 11:15 a.m. Effects of Hybrid Additives on Thermomechanical Properties of PMMA
Parts Printed by Fused Deposition Modeling"
Will Ledford (Kilbey Group, UT Knoxville)
- 11:45 Lunch
On your own Cumberland strip or Student Union
- 1:00 p.m. Design and Development of All-in-One Silicone "Ink" for Additive
Manufacturing
Petar Dvornic, (Pittsburg State)
- 1:30 p.m. Tailoring High Temperature Polyimides for Vat Photopolymerization:
Tuning Performance for Improved Aging and Durability
Clay Arrington (Long Group, Virginia Tech)
- 2:00 High-throughput additive photopolymers: a case study in *Soft
ToughRubber*
Walter Voit (3D Adaptive)
- 2:30 Additive Manufacturing with PTFE
Sam Reiss, 3M
- 2:50 Poster Session/Networking/Discussion
- 4:30 Day 1 wrap-up
- 5:30 Walk to Dinner
- 6:00 Dinner (Individual Billing) and Market Square
Babalu

Thursday, June 19

- 8:30 a.m. Arrival and Coffee
- 9:00 a.m. Magnetic fillers for remote control, remote sensing of silicone cushions
Cory Berklund (University of Kansas)
- 9:30 a.m. Reusability of PPS for Polymer Powder Bed Fusion
Chris Williams and Cam Chatham (Virginia Tech)
- 10 a.m. Break
- 10:30 a.m. 3D Printing Smart Elastomeric Materials
Gobet Advincula (Case Western Reserve University)
- 11:00 a.m. Photopolymerization of High Viscosity Polymers via Direct Ink Write
Daniel Rau (Williams Group, Virginia Tech)
- 11:30 a.m. Wrap-up and Partnering

University Partners/PIs:

Mike Kilbey, Mark Dadmun, Brett Compton – University of Tennessee- Knoxville

Tim Long, Chris Williams – Virginia Tech

Petar Dvornic– Pittsburg State University

Mrinal Saha - Oklahoma

Eric Cochran – Iowa State

Ron Smaldone – University of Texas-Dallas

Gobet Advincula – Case Western Reserve University

Cory Berkland – University of Kansas

Will Dichtel – Northwestern University

Cary Baur – EOS North America

Walter Voit – Adaptive 3D Technologies

Posters:

Daylan Sheppard, Leslie Hamachi (*Dichtel Group*): Dynamic Covalent Polyurethane Networks for 3D Printing

Liyang Shen, Tung-Ping Wang (*Cochran Group*): 3D printing of block copolymer modified thermosetting materials

Shailja Goyal, Michael Forrester (*Cochran Group*): Enhanced high temperature stability of carborane modified cyanate ester

Johanna Vandenbrande (*Long Group*): Probing Durability of Direct-Ink-Write Printed Polyimides: Influences of Molecular Weight and Scaffold Functionality

Cody Pack (*Compton Group*): 3D printing of core-shell composites, Cody Pack

Annemarie Coleman (*Compton Group*): 3D-printing of polymer-derived ceramic composites