

Schedule at a Glance

Conference or fee registration required		Included with all registrations unless indicated	
Monday, April 23			
	Registration/Ba	dae Pick-up	
	7:00 am – 5		
	Pre-conference	Workshops	
	8:30 am – 2	2:00 pm	
Regulatory & Quality System Considerations for 3D Printed Medical Devices WORKSHOP LEADER: Janelle Schrot, Materialise INSTRUCTORS: Matthew DiPrima, Food & Drug Administration; Kim Torluemke, 3D Systems, Jenny Jones, Materialise; Beatrice Ogembo, American Preclinical Services;	3D Printing in Hospitals: What You Need to Know WORKSHOP LEADER: Jonathan Morris, MD, Mayo Clinic & Frank Rybicki, MD, The University of Ottawa INSTRUCTORS: Andy Christensen, Somaden LLC; Amy Alexander, Mayo Clinic; Nicole Wake, NYU School of Medicine; Adam Jakus, DimensionInx	Biomaterials and Bioprinting Fundamentals & Applications Room 320 WORKSHOP LEADER: Adam Jakus, Dimension Inx Stuart Williams, Bioficial Organs Program; Ken Church, nScrypt; James Hoying & Lehanna Sanders, Advanced Solutions; Thomas Hinton, Carnegie Mellon University	RAPID + TCT Workshops of interest: • Fundamentals of Additive Manufacturing • Fundamentals of 3D Scanning and Modeling • Metal Part Fabrication Using Additive Manufacturing • Making the Business Case for Additive Manufacturing
3:00 pm – 5:00 pm			
RAPID + TCT Kickoff			
Additive Manufacturing Awards			
Todd Grimm – What's New at RAPID + TCT?			
Keynote Presentation			
RSNA 3D Printing Special Interest Group Meeting 5:00 pm - 7:00 pm			
	3:00 pm - 5 RAPID + TC Additive Manufa Todd Grimm - What's N Keynote Pro RSNA 3D Printing Special	5:00 pm T Kickoff cturing Awards New at RAPID + TCT? essentation Interest Group Meeting	

	sday, April 24	
	ation/Badge Pick-up 00 am – 5:00 pm	
8:0	00 am – 9:45 am	
1121110	TE PRESENTATION	
-	TEAM Launch note Presentation	
MMI Clinical Applications I 10:10 am – 12:15 pm MODERATOR: Janelle Schrott, Materialise	RAPID+TCT Sessions of Interest 10:10 am – 12:15 pm	Exhibits and Other Activities
10:15 AM - 10:40 AM Predicting the Best-Fit Cardiac Guide-Catheter Prior to <u>Transcatheter Mitral-Repair Using 3D-Printed Models</u> Clare Ward, Materialise	3D Imaging & Scanning/CT Scanning Direct Write Printed Materials/Electronics Materials I	Exhibit Hours 10:00 am – 6:00 pm
10:45 AM - 11:10 AM Influence of Sterilization on Laser Sintered Polyamide Material Laura Gilmour, EOS North America		7:00 am – 6:00 pm Mayo Clinic/MMI Display <i>Lobby</i>
11:15 AM - 11:25 AM A Comparison of 3D Printed Urological Cancer Models Created with Different 3D Printing Technologies Nicole Wake, New York University School of Medicine		

MMI Clinical Applications I (continued)	RAPID+TCT Sessions of Interest (continued)	Exhibits and Other Activities (continued)
11:30 AM - 11:40 AM DLP Printing of Middle Ear Prosthesis for Otoschlerosis: Proof of Concept Gavin Carter, University of Florida 11:45 AM - 11:55 AM The Design Process of Patient Specific Surgical Guides for Head and Neck Reconstruction Heather Logan & Suresh Nayar, Institute for Reconstructive Sciences 12:00 PM - 12:10 PM A Comparison of 3D Printed and Conventional Materials Used for Radiation Bolus Compensators Peter Liacouras, PhD & Charlton Smith, MD, Walter Reed National Military Medical Center	3D Imaging & Scanning/CT Scanning Direct Write Printed Materials/Electronics Materials I	
MMI: Clinical Applications II 2:10 pm – 4:15 pm MODERATOR: William Weadock, University of Michigan	RAPID+TCT Sessions of Interest 2:10 pm – 4:15 pm	Exhibits and Other Activities
2:15 PM - 2:40 PM Seattle Children's Imagination Lab - Pediatric Innovation and Improvement Using an In-Hospital Service Model Christopher Howard, Seattle Children's Research Institute 2:45 PM - 3:10 PM Leveraging the Data Behind 3D Printing: Additional Medical Applications of a 3D Lab Justin Ryan, PhD, Phoenix Children's Hospital 3:15 PM - 3:40 PM Emerging Role of 3D Printing in Medical Device Development and Training Beth Ripley, VA Puget Sound Health Care System; and Dmitry B. Levin, University of Washington Medical Center	AM Design Considerations 3D Imaging & Scanning/Surface Scanning Direct Write Printed Materials/ Electronics Post Processing	2:15 pm – 4:15 pm Additive Manufacturing Standardization Forum Featuring updates from MITA (DICOM), AAMI, ASTM, ASME, AWS, SAE, and IEEE-PWG. Theater?? 2:30 pm – 3:30 pm Tech Briefing: MMI
3:45 PM - 4:10 PM The Medical Economics of 3D Printing for Surgical Planning Michael Gaisford, Stratasys		6:00 pm – 8:30 pm Welcome Event: River Ranch (shuttles provided)

Wednesday, April 25			
Registration/Badge Pick-up			
7:0	0 am – 5:00 pm		
8:0	8:00 am – 9:55 am		
	KEYNOTE		
Innovation A	udition Finals and Award		
SME Medical AM3DP Annual Report			
KEYNOTE: Rise of Point-of-Care Manufacturing: Impacting More Patients with 3D Printing			
Jonathan Morris, MD, and Amy Alexander, BME, MS, Mayo Clinic			
MMI: Implants	RAPID+TCT Sessions of Interest	Exhibits and Other Activities	
10:10 am – 12:15 pm	10:10 am – 12:15 pm		
MODERATOR: Adam Jakus, Dimension Inx			
10:15 AM - 10:40 AM	Research I	Exhibit Hours	
The Socio-Economic Dynamics of the Adoption of 3D	Materials II	10:00 am – 6:00 pm	
Printed Patient-Matched Knee Implants	Software & Modeling		
Amir Namin, Northeastern University	3	7:00 am – 6:00 pm	
		MMI Collaboration Center	
10:45 AM - 11:10 AM		Lobby	
Effect of Build Orientation on Axial/Torsional Fatigue Life of			
<u>Ti-6AI-4V ELI</u>		10:30 – 12:00	
Matthew DiPrima, PhD, US Food and Drug Administration		DICOM WG-17 3D Manufacturing Meeting	

MMI: Implants (continued)	RAPID+TCT Sessions of Interest (continued)	Exhibits and Other Activities (continued)
11:15 AM - 11:25 AM Laser Additive Processing of a Functionally Graded Internal Fracture Fixation Plate Sameehan Joshi, PhD & Srinivas Aditya Mantri, PhD, University of North Texas 11:30 AM - 11:40 AM How Can Additive Manufacturing Improve Fatigue Life in Fracture Fixations: An Experimental Study in Proximal Humerus Fracture Maryam Tilton & Guha Manogharan, PhD, Penn State University 11:45 AM - 11:55 AM Medical and Pharma Printing in the Factory-of-the-Future Riley Reese, TNO 12:00 PM - 12:10 PM Individualized PEEK Implants Using Fused Filament Fabrication (FFF) Uwe Popp, Apium Additive Technologies	Research I Materials II Software & Modeling	12:30 pm -1:30 pm SME MMI Theater Hour SME Medical AM/3DP Workgroup FDA/CDRH DICOM WG-17 3D Manufacturing RSNA 3D Printing SIG BioFabUSA Theater
MMI Biomaterials 2:10 pm – 4:15 pm MODERATOR: David Dean, The Ohio State University	RAPID+TCT Sessions of Interest 2:10 pm – 4:15 pm	Exhibits and Other Activities
2:15 PM - 2:40 PM The "Fluffy" System: A New, 3D-Painting Based Approach to Engineering Material Porosity in Additive Structure Adam Jakus, PhD, Diminsion Inx & Ramille Shah	Research II Material Properties I New Processes I	2:30 pm – 3:30 pm <u>Tech Briefing: MMI</u>
2:45 PM - 3:10 PM 3D-Printed Hyperelastic Bone for Craniofacial Regeneration Yu-Hui Huang, University of Illinois-Chicago		
3:15 PM - 3:40 PM Engineering the Intrahepatic Biliary Tree Using 3D Decellularized Extracellular Matrix Hydrogels Phillip Lewis, Northwestern University		
3:45 PM - 3:55 PM In Vivo Evaluation of Neurotized 3D-Printed Graphene Biomaterials Sumanas Jordan, The Ohio State University		
4:00 PM - 4:10 PM Class I and Class II Medical Device Development with Advanced Material Technology for 3D Printing Daniel Fernback, JuggerBot 3D LLC		5:00 pm – 6:00 pm Show Floor Networking Reception

Thursday, April 26

Registration/Badge Pick-up 7:00 am – 1:00 pm

8:00 am – 9:45 am **KEYNOTE**

Additive Manufacturing Awards
KEYNOTE: The Future of Additive Manufacturing and 3D Printing
Terry Wohlers, Principal Consultant and President, Wohlers Associates, Inc.

MMI: Personalized Prosthetics 10:10 am – 12:15 pm	RAPID+TCT Sessions of Interest 10:10 am – 12:15 pm	Exhibits and Other Activities
MODERATOR: Beth Ripley, Puget Sound VA Hospital 10:15 AM - 10:40 AM Using Additive Manufacturing to Create Soft Tissue Prosthetics After a Sarcoma Diagnosis Irene Healy, New Attitude Prosthetic Designs 10:45 AM - 11:10 AM Specialized Orthotic and Prosthetic Componentry Through the Use of Advanced Digital and Conventional Techniques Peter Liacouras, PhD & Jamie O. Gandert, Walter Reed National Military Medical Center 11:15 AM - 11:40 AM	Applied Economic Research Process Monitoring Control & Qualification Material Properties II New Processes II	Exhibit Hours 10:00 am – 3:00 pm 7:00 am – 2:00 pm Mayo Clinic/MMI Display Lobby
Creation of End Use Personalized Assistive Devices in US Veterans Affairs Hospitals by Clinical Rehabilitation Engineers Ben Salatin, New Mexico VA Health Care System 11:45 AM - 11:55 AM Remote Fabrication of Prosthetic Sockets Using Computer Tomography Scanning and 3D Printed Molding Procedure Mohammad Abubasha, Texas A&M University		12:30 pm – 1:30 pm <u>Tech Briefing: MMI</u>
12:00 PM - 12:10 PM Design Optimization and Additive Manufacturing of Custom- Fit Prosthetic Sockets Christiane Beyer, PhD, & Monica Robles, California State University-Long Beach		