

# Symposium Agenda Addendum **Monday, October 23, 2017**

## **Plenary Welcome Session: Perspectives on the Future of Regenerative Medicine** **Session Chair: Joachim Kohn and Miroslawa El Fray**

9:00 - 9:20 am	Christopher J. Molloy, Rutgers University - Welcome
9:20 - 10:00 am	Dean Kamen, Advanced Regenerative Manufacturing Institute - "Manufacturing the Future of Biofabrication"
10:00 - 10:30 am	Glenn Gormley, Daiichi Sankyo Co. - "A PHARMA Perspective on the Opportunities and Challenges of Regenerative Medicine"
10:30 - 11:00 am	Break
11:00 - 11:30 am	Joachim Kohn, NJ Center for Biomaterials - "Bioactive Materials for the Treatment of Major Injuries: Opportunities and Challenges"
11:30 am - 12:00 pm	Richard McFarland, Advanced Regenerative Manufacturing Institute - "The Quest for Coordinated Federal Policy and Practice for Tissue Engineering and Regenerative Medicine: The Multi-decade Odyssey of MATES"
12:00 - 12:05 pm	ARMI Membership Information
12:05 - 1:30 pm	<b>Exhibitions and Lunch</b>

### **Session 1A - The Science of Tissue Regeneration** **Session Chair: Glenn Gormley**

### **Session 1B - Continuous Manufacturing of Pharmaceutical Dosage Forms** **Session Chair: Fernando Muzzio**

1:30 - 2:00 pm	Anthony J. Windebank, Mayo Clinic - "Tissue Engineering To Restore Function In The Nervous System"	Allan S. Myerson, Massachusetts Institute of Technology - "Continuous Manufacturing of Active Pharmaceutical Ingredients: Current Status, Future Prospects"
2:00 - 2:15 pm	Yunzhi Peter Yang, Stanford University - "What Have we Learned From Bone? Bio-inspired Approaches for Accelerated Bone Regeneration"	Fernando Muzzio, Rutgers University - "Continuous Drug Product Manufacturing - Report from the Front Line"
2:15 - 2:35 pm	Hilton Kaplan, Rutgers University - "Tissue Engineering Applications for Autologous Human Neurovascular Bundles Engineered from Xenogeneic Ones"	Mark Brower, Merck - "Current State of Integrated Continuous Manufacturing for the Production of Therapeutic Proteins"
2:35 - 2:50 pm	Sherif Soliman, Biostage, Inc. - "Esophageal Regeneration with a Cell-seeded Tissue Engineered Scaffold"	Q&A Session

### 2:50 - 3:30 pm **Exhibitions and Break**

### **Session 2A - Additive Manufacturing Technologies (3D Printing)** **Session Chair: Joseph Steele**

### **Session 2B - Challenges and Solutions for Cell and Tissue Manufacturing** **Session Chair: Robert Latour and Sangya Varma**

3:30 - 3:55 pm	Paul Dalton, University of Wurzburg - "Electrowriting: Bridging the Divide between 3D Printing and Electrospinning"	Gregory Christopherson, LifeCell - "Decellularized Dermal Tissue as a Biomaterial: An Early Success of Medicine"
3:55 - 4:20 pm	Ibrahim Ozbolat, Penn State - "3D Bioprinting of Living Tissues"	Alla Danikovitch, Osiris - "Advancement in Cell and Tissue Preservation for Commercial Success"
4:20 - 4:45 pm	Michael Francis, Embody - "Biofabrication of Collagen-Based Biomaterials for Regenerative Medical Device Applications"	Kevin Healy, University of California, Berkeley - "Bioinspired Polymer Networks for Stem Cell Expansion and Tissue Manufacturing"
4:45 - 5:00 pm	Murat Guvendiren, New Jersey Institute of Technology, "Additive Manufacturing in Medicine: Emerging Opportunities and Challenges"	Aron Rosenberg - Histogenics "Biomanufacturing from an Autologous Tissue Engineering Perspective"

### 5:00 - 6:30 pm **Social Reception**

# Symposium Agenda Addendum Tuesday, October 24, 2017

<b>Session 3A - Future of Biologics Delivery</b> <b>Session Chair: Joseph Rosen</b>		<b>Session 3B - Regulatory Science and Policy - Regenerative Medicine Products</b> <b>Session Chair: Richard McFarland</b>	
9:00 - 9:25 am	Mark Saltzman, Yale University - "Polymer Nanoparticles for Intracellular and Targeted Delivery of Drugs and Biologics"	Carolyn Yong, FDA - "Regulatory Considerations for Cell-Based Regenerative Medicine Product Development"	
9:25 - 9:50 am	Warren Ruder, University of Pittsburgh - "Biomaterials Approaches to in situ Manufacturing of Biologics"	Michael Drues, Vascular Sciences - "Conducting Effective FDA Pre-Sub Meetings: Tell, Don't Ask... Lead, Don't Follow!"	
9:50 - 10:15 am	Biju Parekkadan, Rutgers University - "Cell Therapy Meets Drug Delivery"	Panel Session	
10:15 - 11:30 am	<b>Exhibition and Poster Display</b>		
<b>Session 4A - Innovative Biomaterials and their Application in Regenerative Medicine</b> <b>Session Chair: Becky Robinson-Ziegler</b>		<b>Session 4B - Biomaterials for the Control of Stem Cell Functions and Differentiation</b> <b>Session Chair: John Kemnitzer</b>	
11:30 - 11:55 am	Ali Khademhosseini, Harvard University - "Micro and Nanoengineered Hydrogels For Regenerative Engineering And Biomanufacturing"	Jason Wertheim, Northwestern University - "Bioengineering Materials to Tip the Balance Toward Maturation and Function of Stem Cell-Derived Tissues"	
11:55 am - 12:10 pm	Lawrence Bonassar, Cornell University - "Collagen-Based Bioinks for Cartilage Printing"	Jo-Anna Reems, University of Utah - "HCT/PS from the Bench-to-the-Bedside: Overcoming the 'Valley of Death'"	
12:10 - 12:25 pm	Mirosława El Fray, University of Poland - "Electrospun Coiled Fibers From Elastomeric Copolymer Mimicking Heart Muscle Structure"	Yong Mao, Rutgers University - "Cell Type-Specific Extracellular Matrix Guided the Differentiation of Human Mesenchymal Stem Cells in 3D Polymeric Scaffolds"	
12:25 - 1:30 pm	<b>Lunch</b>		
<b>Closing Session: Major Breakthroughs and Challenges</b> <b>Session Chair: Antonio Merolli</b>			
1:30 - 2:00 pm	Joseph Freeman, Rutgers University - "Functional Scaffolding for Bone Tissue Engineering"		
2:00 - 2:30 pm	Jan Jensen, Trailbio - "Mapping and Controlling Fate Spaces: How to Achieve Process Understanding When Directing Cellular Differentiation"		
2:30 - 3:00 pm	Alex Soto, University of Pittsburgh - "Biofabrication of Autologous Human Hepatocytes: The Engine for Whole Organs"		
3:00 - 3:30 pm	Tom Bollenbach, Advanced Regenerative Manufacturing Institute - "BioFabUSA: A Collective Vision for the Future of Engineered Tissue Manufacturing"		
3:30 - 3:40 pm	Closing Remarks by Joachim Kohn		

## Yong Mao

*Assistant Research Professor at Rutgers, The State University of New Jersey*

### Cell Type-Specific Extracellular Matrix Guided the Differentiation of Human Mesenchymal Stem Cells in 3D Polymeric Scaffolds

#### Biography

Yong Mao, PhD is an Assistant Research Professor at Rutgers, The State University of New Jersey. She has broad research experience in molecular biology, cell biology, biochemistry and microbiology. Having focused her academic and industrial research in extracellular matrix biology, Dr. Mao brings her expertise in tissue engineering and regenerative medicine to her role at the New Jersey Center for Biomaterials. Her main areas of interest are cell-bioscaffold interaction; scaffold supported tissue regeneration, stem cell technology and antimicrobial activity of biomaterials. Currently, she leads multiple industrial research collaborations and manages the NJCBM biology laboratory.

