

# Eleventh Symposium on Biologic Scaffolds for Regenerative Medicine

## Day 1: May 6, 2021 (Thursday)

1:00 – 8:30 pm	Registration	Silverado Foyer
	<b>Keynote:</b> Laura E. Niklason, PhD, MD <i>Yale University</i>	Engineered Matrix in the Vascular System – Remodeling and Function
5:30 – 6:30 pm		
6:30 – 8:30 pm	<b>Reception</b>	<b>Fairway Deck/Silverado East</b>

## Day 2: May 7, 2021 (Friday)

7:00 – 8:00 am	<b>Breakfast</b>	<b>Fairway Deck</b>
<b>Welcome</b>		
8:00 – 8:05 am	Stephen F. Badylak, DVM, PhD, MD <i>University of Pittsburgh</i>	Silverado West
<b>Plenary Session:</b> 8:05 – 8:45 am	Frederick Schoen, MD, PhD <i>Brigham and Women's Hospital and Harvard Medical School</i>	Engineered Tissue Heart Valves: Rationale, Approaches and Translational Challenges
<b>Session I:</b>	<b>ECM-based Bioscaffolds and Cell: Matrix Interactions</b> <i>Session Chair: Neill Turner, PhD</i>	
8:45 - 9:20 am	Cyrus Ghajar, PhD <i>Fred Hutchinson Cancer Research Center</i>	Vascular and Perivascular Regulation of Disseminated Tumor Cell Survival, Dormancy and Outgrowth in the Brain
9:20 – 10:00 am	Martin Birchall, MD <i>University College of London</i>	
<b>10:00 – 10:20am</b>	<b>Break</b>	<b>Fairway Deck / Silverado East</b>
<b>Session II:</b>	<b>Immunomodulation, ECM and Clinical Applications</b> <i>Session Chair: George Hussey, PhD</i>	
10:20 – 10:50am	Alberto Mantovani, MD <i>Humanitas University</i>	Macrophage Diversity and Plasticity in Tissue Remodeling and Repair
10:50 – 11:20 am	Jennifer Elisseeff, PhD <i>Johns Hopkins University</i>	Mapping the Regenerative Response to ECM Materials
11:20 – 11:50 am	Robert Rehnke, MD <i>Center for Surgical Excellence</i>	Breast Reconstruction Using a 3-D (P4HB) Mesh Scaffold and Autologous Fat Grafting: In vivo Tissue Engineering
<b>11:50 – 1:15pm</b>	<b>Lunch</b>	<b>Fairway Deck</b>
<b>Session III:</b>	<b>Cardiovascular Applications of ECM-based Materials</b> <i>Session Chair: Glenn Prestwich, PhD</i>	

1:15 – 1:45 pm	Karen Christman, PhD <i>University of California San Diego</i>	Infusible ECM for Treating Injured and Inflamed Tissue via Intravascular Administration
1:45 – 2:15 pm	Maddie Cramer, MS <i>University of Pittsburgh</i>	Matrix Bound Nanovesicles Protect against Cardiac Allograft Rejection
2:15 – 2:40 pm	Travis Block, PhD <i>StemBioSys, Inc.</i>	Cell-Derived Extracellular Matrix Supports Rapid Maturation of iPSC-Derived Cardiomyocytes in a 2-D Culture
2:40 – 3:00 pm	Robert Matheny, MD <i>CorMatrix Cardiovascular Inc.</i>	Early Results from the FDA Extracellular Matrix (ECM) Cylindrical Tricuspid Valve Clinical Feasibility Trial
3:00 – 3:20 pm	<b>Break</b>	Fairway Deck / Silverado East
<b>Session IV:</b>	<b>The Extracellular Matrix: Structure and Function</b> <i>Session Chair: Kevin Healy, PhD</i>	
<b>Plenary Session:</b>	Robert Mecham, PhD <i>Washington University in St. Louis</i>	Extracellular Matrix: Form and Function
3:20 – 4:10 pm	George Hussey, PhD <i>University of Pittsburgh</i>	Matrix Bound Nanovesicles: The Next Generation of ECM-based Biomaterials?
4:10 – 4:35 pm	Kirk Hansen, PhD <i>University of Colorado</i>	Matrix Remodeling in Pulmonary Hypertension
4:35 – 5:00 pm		
6:00 – 8:00 pm	<b>Poster Session and Wine Reception</b>	<b>Fairway Deck/Silverado East</b>

## Day 3: May 8, 2021 (Saturday)

7:00 – 8:00 am	<b>Breakfast</b>	<b>Fairway Deck</b>
<b>Welcome</b>		
8:00 – 8:15 am	Stephen F. Badylak, DVM, PhD, MD <i>University of Pittsburgh</i>	Silverado West
<b>Session V:</b>	<b>ECM, Skeletal Muscle and Cell Culture</b> <i>Session Chair: Kirk Hansen, PhD</i>	
8:15 – 8:45 am	Kevin Healy, PhD <i>University of California, Berkley</i>	Semi-Synthetic Hyaluronic Acid-Based Hydrogels for Regeneration of Volumetric Muscle Loss Injuries
8:45 – 9:15 am	Raphael Crum <i>University of Pittsburgh</i>	Matrix Bound Nanovesicles for Rheumatoid Arthritis Therapy
9:15 – 9:35 am	Kevin Hopkins, MD <i>Driscoll Children's Hospital</i>	Clinical Experience in 107 Procedures with Allograft Adipose Matrix (AAM) Grafting in the Pediatric Patient
9:35 – 10:00 am	Alex Kasznel, PhD <i>Smithfield Bioscience, Inc.</i>	Expanding the Biologic Scaffold Toolbox Through Porcine Biomaterials
10:00 – 10:20 am	Lindsey Saldin, PhD <i>ECM Therapeutics</i>	Esophageal ECM Hydrogel Treatment of Barrett's Esophagus
10:20 – 10:50 am	<b>Break</b>	<b>Fairway Deck/Silverado East</b>

<b>Session VI:</b>	<b>Regulatory Challenges and Clinical Translation of ECM-based Products</b> <i>Session Chair: Stephen F. Badylak, DVM, PhD, MD</i>	
10:50 – 11:15 am	Glenn Prestwich, PhD <i>University of Utah</i>	Meeting the Challenges Translating Hyaluronan Biomaterials into the Clinic
11:15 – 11:35 am	Nicholas Pashos, PhD <i>BioAesthetics</i>	In Vivo Evaluation Acellular Nipple-Areolar Complex Grafts for Nipple Reconstruction
11:35 – 11:55 am	Kevin Rocco, MS <i>BioRez Inc.</i>	Tissue-Engineered Augmentation of A Rotator Cuff Repair Using a Novel Bio-Inductive Biocomposite Scaffold: A Preliminary Study in Sheep
11:55 – 1:15pm	<b>Lunch</b>	<b>Fairway Deck</b>
<b>Session VII:</b>	<b>Tissue Source of ECM and More Immunomodulation</b> <i>Session Chair: Arthi Shridhar, PhD</i>	
1:15 – 1:35 pm	Matt Wolf, PhD <i>National Cancer Institute</i>	Generating Long Lasting Cancer Immunity in the ECM Scaffold Microenvironment: Towards an ECM Cancer Vaccine
1:35 – 1:55 pm	Kasinath Kuravi, PhD <i>Revivicor, Inc.</i>	Characterization of an Engineered Pig Intended as a Safer Source of Biological Scaffolds
1:55 – 2:15 pm	Lori Sorrells <i>Revivicor, Inc.</i>	A Closer look at the Immunogenicity of ECM surgical Products and Potential Alternatives
2:15 – 2:35 pm	Caleb Vogt <i>University of Minnesota</i>	Pre-aligned Muscle Microtissues for Bioprinting Complex Fascicle Geometries
2:35 – 3:05 pm	<b>Break</b>	<b>Fairway Deck/Silverado East</b>
<b>Session VIII:</b>	<b>3D Printed ECM Bioscaffolds</b> <i>Session Chair: Robert Matheny, MD</i>	
3:05 – 3:25 pm	David Martin, PhD <i>Tepha</i>	Development and Evaluation of a Fully Absorbable Poly-4-hydroxybutyrate (P4HB) Electrospun Scaffold for Soft Tissue Reconstruction in a Rabbit Dorsal Model
3:25 – 3:50 pm	Alexandra Naba, PhD <i>University of Illinois at Chicago</i>	10 Years of Mastrisome Research: How Big Data Can Help Advance Our Understanding of the Roles of the ECM in Health and Science
3:50 – 4:15 pm	Adam Feinberg, PhD <i>Carnegie Mellon University</i>	3D Printing of the Extracellular Matrix to Rebuild Complex Tissues
4:15 – 4:30 pm	Stephen F. Badylak, DVM, PhD, MD <i>University of Pittsburgh</i>	Closing Remarks