Twelfth Symposium on
Biologic Scaffolds for Regenerative Medicine

Day 1: May 18, 2023 (Thursday)

3:00 – 8:00 pm	Registration	Silverado Foyer
5:00 – 6:00 pm	**Keynote: Robert Mecham, PhD** *Washington University, St. Louis*	The Extracellular Matrix in Tissue Engineering: Rebuild It or Reuse It?
6:00 – 8:00 pm	**Wine and Cheese Reception**	**Silverado East & Fairway Deck**
6:00 – 8:00 pm	**Exhibits Open**	**Silverado East**

Day 2: May 19, 2023 (Friday)

7:00 – 8:00 am	**Breakfast**	**Fairway Deck**
Welcome		
8:00 – 8:05 am	Stephen F. Badylak, DVM, PhD, MD *University of Pittsburgh*	Silverado West
Session I:	**The ECM: Immune System Interface** *Session Chair: George Hussey, PhD, University of Pittsburgh*	
Plenary Session: 8:05 – 8:40 am	Featured Presentation: Alberto Mantovani, MD, *Humanitas University, Italy*	Macrophage Plasticity and the Orchestration of Tissue Repair
8:40 – 9:05 am	Benjamin G. Keselowsky, PhD *University of Florida*	Tissue-Anchored and Circulating Indoleamine 2,3-Dioxygenase for Immunometabolic Suppression of Inflammation
9:05 – 9:30 am	Matthew Wolf, PhD *National Cancer Institute, NIH*	Inducing Antigen Specific Tumor Regression with a Biologic Scaffold Assisted Therapeutic Cancer Vaccine
9:30 – 9:50 am	Hector Capella Monsonis, PhD *University of Pittsburgh*	Immunomodulatory Effect of Matrix Bound Nanovesicles (MBV) upon Myeloid Precursor Cells
9:50 – 10:10 am	Milos Marinkovic, PhD *University of Texas Health Science Center at San Antonio*	Depletion of Cyr61/CCN1 from the Bone Marrow Stromal Niche is a Potential Mechanism Contributing to the Dysregulation of MSCs in Aging Skeletal Tissue
10:10 – 10:35 am	**Break**	**Silverado East**
Session II:	**Composition and Biologic Activity of the ECM** *Session Chair: Kevin E. Healy, PhD, University of California, Berkeley*	
10:35 – 10:55 am	Maxwell McCabe, PhD *University of Colorado*	A Mass Spectrometry-based Atlas of Extracellular Matrix Proteins Across 25 Mouse Organs
10:55 – 11:15 am	Michel Modo, PhD *University of Pittsburgh*	Establishing the Mechanistic Role of Matrix Metalloproteinase (MMP) in ECM Hydrogel Degradation

11:15 – 11:35 am	Kirsi Rilla, PhD University of Eastern Finland	Hyaluronan and Its Role in EV Biology
11:35 – 12:00 pm	John P Fischer, MD, MPH, FACS *University of Pennsylvania*	Re-imagining Hernia Repair with Bioabsorbable Materials
12:00 – 1:15pm	**Lunch**	**Fairway Deck**
12:30 – 1:15pm	**Exhibits Open**	**Silverado East**
Session III:	**Basic Science meets Clinical Applications** *Session Chair: Robert G. Matheny, MD, CorMatrix Cardiovascular*	
1:15 – 1:35 pm	Karen Christman, PhD *University of California San Diego*	Infusible Extracellular Matrix for Treating Inflamed Tissues
1:35 – 1:55 pm	Vishnu Vasanthan, MD *University of Calgary, Canada*	Pericardial Delivery of Micronized Matrix Biomaterial Enhances Post-infarct Cardiac Repair
1:55 – 2:10 pm	William Fodor, PhD *Biostage, Inc.*	Esophageal Regeneration Following Surgical Implantation of a Tissue Engineered Esophageal Implant: Understanding the Regeneration Time Course and Translation to the Clinic
2:10 – 2:25 pm	Vince Anto, MD *University of Pittsburgh Medical Center*	Extracellular Matrix Adjuncts in a Rat Model of a High-Risk Colorectal Anastomosis
2:25 – 2:50 pm	Peter Jones, PhD University of Nevada	MBV for FSHD: Effect of Matrix-Bound Nanovesicles on a Dystrophic Environment
2:50 – 3:05 pm	**Break**	**Silverado East**
Session IV:	**ECM Formulations, Sourcing and Concepts** *Session Chair: Marley Dewey, PhD, University of Pittsburgh*	
3:05 – 3:25 pm	Dennis Orgill, MD, PhD *Brigham and Women's Hospital/Harvard University*	Xenogenic Induction of Adipose Tissue and Maintenance Through Pre- and Post-Conditioning Using External Volume Expansion
3:25 – 3:50 pm	Joana Calderia, PhD *i3S, Universidade do Porto, Portugal*	Fetal-inspired Scaffolds for Intervertebral Disc Regeneration
3:50 – 4:15 pm	Joshua Jones, PhD *University of Nottingham, UK*	Engineered Neural Tissue from Decellularized Biomaterials for Peripheral Nerve Repair
4:15 – 4:35 pm	Roche de Guzman, PhD *Hofstra University, Hempstead, NY*	Mitigation of Fibrosis Response Using Biologic SIS-ECM Envelopes with Implantable Electronic Devices
4:35 – 4:40 pm	Stephen F. Badylak, DVM, PhD, MD *University of Pittsburgh*	Closing Remarks
5:00 – 7:00 pm	**Poster Session and Wine Reception**	**Silverado East & Fairway Deck**
5:00 – 7:00 pm	Exhibits Open	Silverado East

Day 3: May 20, 2023 (Saturday)

7:00 – 8:00 am	**Breakfast**	**Fairway Deck**
Welcome		
8:00 – 8:05 am	Stephen F. Badylak, DVM, PhD, MD *University of Pittsburgh*	Silverado West
Plenary Session: 8:05 – 8:40 am	**Keynote Address: Harald C. Ott, MD** *Harvard Medical School*	Engineered Organ Therapeutics - How Close Are We in 2023?
Session V:	**General and Reconstructive Surgical Applications of Naturally Occurring Bioscaffolds** *Session Chair: John A. DeFord, PhD (retired) former BD Exec Vice President and CTO*	
8:40 – 9:05 am	Robert Rehnke, MD *The Center for Surgical Excellence, Tampa, FL*	Total Breast Reconstruction with Autologous Fat Grafting and P4HB Absorbable Mesh - an Eight Year Experience: Lessons Learned and Theories on the Self-organizing Regenerative Superficial Fascia.
9:05 – 9:30 am	Kevin E. Healy, PhD *University of California, Berkeley*	4D Hyaluronic Acid-Based Hydrogels for Cell Transplantation and Tissue Regeneration
9:30 – 9:55 am	Gaetan Roudier *University of Bordeaux, France*	Development of a Vascular Graft Woven from Extracellular Matrix Yarn and First Use as an Arteriovenous Shunt in Sheep
9:55 – 10:20 am	Stephen Badylak, DVM, PhD, MD *University of Pittsburgh*	The Effects of ECM Hydrogel on the Wound Microenvironment
10:20 – 10:45 am	**Break**	**Silverado East**
Session VI:	**ECM: Structure/Function** *Session Chair: John Harper, PhD, Sr. VP R&D, Chief Technology Officer, Mimedx Group, Inc.*	
10:45 – 11:10 am	Kirk Hansen, PhD *University of Colorado Anschutz Medical Campus*	Extracellular Matrix Remodeling in Acomys Cahirinus Skin Regeneration
11:10 – 11:35 am	Carlos Sonnenschein, MD *Tufts University*	Cancer is a Developmental Disease
11:35 – 11:55 am	Gavin Arteel, PhD *University of Pittsburgh*	Therapeutic Matrix-Bound Nanovesicles (MBV) Protect Against Experiment Alcohol-associated Liver Disease in Mice
11:55 – 12:15 pm	Sarah Moreno *MiMedx Group, Inc*	Human Placental Extracellular Matrix Particulate Supports Fibroblast Cellular Activities: Therapeutic Potential for Wound Applications
12:15 – 1:15pm	**Lunch**	**Fairway Deck**
12:45 – 1:15pm	**Exhibits Open**	**Silverado East**
Session VII:	**Effects of Manufacturing upon ECM Bioactivity** *Session Chair:* Kirk Hansen, PhD, *University of Colorado Anschutz Medical Campus*	
1:15 – 1:40 pm	Kara Spiller, PhD *Drexel University*	Controlled Release of Immunomodulatory Factors for Regenerative Medicine
1:40 – 2:00 pm	Michael Hiles, PhD *Cook Biotech, Inc*	The Case for Inflammation B?

2:00 – 2:25 pm	Lisa White, PhD *University of Nottingham, UK*	Supercritical Carbon Dioxide Decellularization – Hope vs Hype?
2:25 – 2:50 pm	Jin Han, PhD *Johns Hopkins University*	Age-associated Senescent-T Cell Signaling Promotes Type 3 Immunity that Inhibits Regenerative Response
2:50 – 3:10 pm	**Break**	**Silverado East**
Session VIII:	**Next Generation ECM Products** *Session Chair: Matthew T Wolf, PhD, Center for Cancer Research, NIH*	
3:10 – 3:35 pm	Roseanne Frederick, PhD Smith & Nephew, Inc	Clostridium Collagenase Impact on Zone of Stasis Stabilization and Transition to Healthy Tissue in Burns
3:35 – 3:55 pm	Michael Buckenmeyer, PhD *National Cancer Institute*	Self-assembling Extracellular Matrix Tumor Spheroids: A 3D in Vitro Model of Dynamic Reciprocity
3:55 – 4:15 pm	Jason Spector, MD, FACS *Weill Cornell Medicine and co-founder and Chief Medical Officer of Fesarius Therapeutics.*	Dermisphere™: Harnessing Microstructural Cues in a Collagen Hydrogel to Optimize Vascular Invasion
4:15 – 4:40 pm	George Hussey, PhD *University of Pittsburgh*	Engineering the Next Generation of Therapeutic Biomaterials: Lessons from Nature
4:40 – 4:50 pm	Stephen F. Badylak, DVM, PhD, MD *University of Pittsburgh*	Closing Remarks