Thirteenth Symposium on
Biologic Scaffolds for Regenerative Medicine

Day 1: May 1, 2025 (Thursday)

1:00 – 8:30 pm	Registration	Silverado East Foyer
5:30 – 6:30 pm	**Keynote:** Laura E. Niklason, MD, PhD *CEO, Humacyte*	Silverado East
6:30 – 8:30 pm	**Reception**	**Fairway Deck**

Day 2: May 2, 2025 (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 East
Plenary Session: 8:05 – 8:40 am	Robert Mecham, PhD *Washington University, St. Louis, MO*	The Extracellular Matrix: The Good, the Bad, and the Surprises
Session I:	*The Extracellular Matrix: Structure – Function Relationships* *Session Chair: John DeFord, PhD; Retired CTO Becton Dickenson*	
8:40 – 9:05 am	Kirk Hansen, PhD *University of Colorado*	Comparative Atlas of Extracellular Matrix Protein Composition Across 20 Tissues from *Mus Musculus* and the Regenerative Spiny Mouse *Acomys Cahirinus*
9:05 – 9:30 am	Gavin Arteel, PhD *University of Pittsburgh*	Hepatic-Specific CAPN4 Modulation as a Novel Therapeutic Approach for Metabolic Associated Steatotic Hepatitis
9:30 – 9:50 am	Paolo De Coppi, MD, PhD, FMedSci *University College London*	From Bench to Body: The Role of ECM in Regenerative Medicine
9:50 – 10:10 am	George Hussey, PhD *University of Pittsburgh*	Matrix Bound Nanovesicles: From Basic Research to Therapeutic Applications
10:10 – 10:35 am	**Break**	**Fairway Deck**
Session II:	*Next Generation Bioscaffolds: Clinical Applications* *Session Chair: George Hussey, PhD; University of Pittsburgh*	
10:35 – 10:55 am	J. Scott Roth, MD, FACS *University of Kentucky*	Requisite Repair for Abdominal Wall Defects: Science and Surgery for Reconstruction
10:55 – 11:15 am	David Medich, MD *University of Pittsburgh*	Anastomotic Leaks in Colon and Rectal Surgery

11:15 – 11:35 am	William Fodor, PhD *Harvard Apparatus Regenerative Technology, Inc.*	The Development of a Decellularized Retrievable Internal Wound Healing Device
11:35 – 11:55 am	Vincent Antonelli, MD *University of Pittsburgh*	Intraluminal Extracellular Matrix Therapy for Anastomic Leak: A Novel Solution to a Persistent Challenge
11:55 – 1:15 pm	**Lunch**	**Fairway Deck**
Session III:	*Naturally Occurring Bioscaffolds in "Hard to Heal" Wounds* *Session Chair: Gavin Arteel, PhD; University of Pittsburgh*	
1:15 – 1:35 pm	Joseph A Molnar, MD, PhD, FACS, *Wake Health*	A History of Skin Substitutes
1:35 – 1:55 pm	Andrew Rader, DPM *Indiana Foor & Ankle, Jasper, In*	Transforming Wound Healing: Decellularized Matrices and Their Role in Minimizing Scar Tissue Formation
1:55 – 2:15 pm	Jimmie Lang *MiMedX Group, Inc.*	Bovine Extracellular Matrix Particulate Modulates Fibroblast Cellular Activities Supportive of Wound Management
2:15 – 2:35 pm	Yulia Sapir-Lekhovitser, PhD *Fesarius Therapeutics*	Understanding the Kinetics of Rapidly Vascularizing Composite Collagen Dermal Templates
2:35 – 2:50 pm	Gustavo Henrique Almeida *University of Sao Paulo*	Acellular Porcine Placental Membranes as a Promising Biomaterial for Tissue Engineering Applications
2:50 – 3:05 pm	Michael Hiles, PhD *Cook Biotech Inc.*	Anti-fibrotic Properties of a Decellularized Extracellular Matrix Scaffold from Porcine Small Intestinal Submucosa are Evident in Human Normal and Keloid Fibroblasts
3:05 – 3:25 pm	**Break**	**Fairway Deck**
Session IV:	*Bone and Cartilage Repair with ECM* *Session Chair: Matthew Wolf, PhD; NIH*	**Fairway Deck**
3:25 – 3:45 pm	Luai Huleheil, PhD *Smith & Nephew Plc.*	Marine Coral Exoskeleton as a Tissue Engineering Scaffold for Cartilage Repair
3:45 – 4:05 pm	Anna Gosiewska, PhD *Cellularity Inc.*	Novel Decellularized Human Placental Extracellular Matrix (ECM) Mineral Composite for Bone Applications
4:05 – 4:25 pm	Derek Dashti, MS, PhD, MBA *Pinnacle Transplant Technologies LLC*	The Biomechanical Composition and Osteoinductive Potential of Evoke Demineralized Bone Matrix (DBM) Putty
4:25 – 4:45 pm	Michael Floren, PhD *AlloSource Innovation Center*	Towards a Physeal Allograft for Pediatric Growth Plate Repair: From Benchtop to Preclinical Feasibility in Domestic Swine
4:45 – 4:50 pm	Stephen F. Badylak, DVM, PhD, MD *University of Pittsburgh*	Closing Remarks
6:00 – 8:00 pm	**Poster Session and Wine Reception**	**Fairway Deck**

Day 3: May 3, 2025 (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 East
Plenary Session: 8:05 – 8:40 am	*Alberto Mantovani, MD* *Humanitas University*	Macrophage plasticity and the orchestration of tissue repair: old and new molecular players
Session V:	Matrix Building Blocks for Normal vs. Neoplastic Tissue *Session Chair: Vincent Antonelli, MD; University of Pittsburgh*	
8:40 – 9:05 am	Catalina Pineda Molina, PhD *University of Pittsburgh*	Exploring Matrix-Bound Nanovesicles from Joint Tissues: Emerging Diagnostic and Therapeutic Applications
9:05 – 9:20 am	Matthew Wolf, PhD *National Institute of Health*	Biologic Mesh Implantation Following Tumor Resection: Characterizing Mesh-Tumor Interactions and Feasibility for Perioperative Immunotherapy Delivery
9:20 – 9:35 am	Jason Spector, MD *Weill Cornell Medicine*	A Novel Injectable Composite Collagen Hydrogel for Long-Lasting Tissue Regeneration
9:35 – 9:50 am	Joan Nichols, PhD *Houston Methodist Research Institute*	Use of Layer-by-Layer Deposition of Growth Factors, Hydrogels, and Microparticles to Overcome the Hurdle of Dimensionality in Tissue Engineering
9:50 – 10:05 am	Dalia Di Francesco *Laval University, Québec*	Bioactive Matrix Bound Nanovesicles from Decellularized Bovine Pericardium for Tissue Regeneration
10:05 – 10:20 am	**Break**	
Session VI:	*ECM Bioscaffolds for the Heart, Airway, and Nerves* *Session Chair: Catalina Pineda Molina, PhD; University of Pittsburgh*	**Fairway Deck**
10:25 – 10:40 am	Riccardo Gottardi *University of Pennsylvania*	A Decellularized Cartilage Biomaterials Approach to Pediatric Airway Reconstruction
10:40 – 11:00 am	Paul Fedak, MD, PhD *University of Calgary*	Pericardial Delivery of Micronized Matrix Biomaterial Enhances Post-Infarct Cardiac Repair
11:00 – 11:15 am	Marissa Behun, PhD *University of Pittsburgh*	Acellular Porcine Sciatic Nerve-Derived Hydrogel Improves Functional Outcomes Following Direct Muscle Neurotization in a Rat Model
11:15 – 11:35 am	Robert Matheny, MD *CorMatrix Cardiovascular*	Regenerative Heart Valve; Update on the Development and Pivotal Trial for the Corvivo ECM Tricuspid Valve

11:35 – 11:50 am	John Konhilas, PhD *University of Arizona*	Clinical Experience of Human Placental Materials for Post-Operative Atrial Fibrillation Following Coronary Artery Bypass Surgery
11:50 – 1:00 pm	**Lunch**	
Session VII:	*Factors Contributing to "Constructive Tissue Remodeling"* *Session Chair: Robert Matheny, MD; Corvivo Cardiovascular*	**Fairway Deck**
1:00 – 1:20pm	Michael Hiles, PhD *N-Able Consulting LLC*	An Atemporal Model of Wound Healing Provides a Figure of Merit for Tissue Repair Using Extracellular Matrix
1:20 – 1:40 pm	Adam Young, PhD *Aroa Biosurgery Limited*	From Concept to Clinical Translation: A Commercialization Case Study of Ovine Forestomach Matrix
1:40 – 2:00 pm	Elizabeth Cosgriff-Hernandez, PhD *The University of Texas at Austin*	Harnessing Suspension for the Creation of Decellularized Tissue Scaffolds
2:00 – 2:20 pm	Kavita Parekh *University of California Berkeley*	Hyaluronic Acid-based Cryogel Scaffolds Promote Muscle Regeneration
2:20 – 2:40 pm	**Break**	
Session VIII:	*Bioscaffold-Mediated Muscle Regeneration* *Session Chair: Stephen F. Badylak, DVM, PhD, M; University of Pittsburgh*	**Fairway Deck**
2:40 – 3:00 pm	Karen Christman, PhD *University of California*	Injectable Extracellular Matrix Hydrogels for Women's Health
3:00 – 3:20 pm	Sydney Shriver *University of Virginia*	Evaluation of Hyaluronic Acid-Based Hydrogels for Treatment of Extremity Volumetric Muscle Loss Injuries
3:20 – 3:40 pm	TBD	TBD
3:40 – 4:00 pm	Morgan Pfaff *University of California Berkeley*	Viscoelastic HyA Hydrogel Promotes Recovery of Muscle Quality and Vascularization in a Murine Model of Delayed Rotator Cuff Repair
4:00 – 4:15 pm	Stephen F. Badylak, DVM, PhD, MD *University of Pittsburgh*	Closing Remarks