

ASMB Biennial Meeting ♦ October 14-17, 2018  
**Red Rock Canyon**  
**Las Vegas, NV**

**“ECM Microenvironments in Disease, Aging and Regeneration”**

Meeting Chair: Lynn Sakai, *Shriners Hospital for Children and Oregon Health & Science University*

**Sunday, October 14<sup>th</sup>**

**9:00am - 6:00pm** Registration

*Location:* Summerlin Foyer

**10:00am - 12:00pm** Guest Symposium I -  
**TERMIS**

*Location:* Summerlin D

*Chairs:* Adam Engler, *University of California San Diego* and Thomas Barker, *University of Virginia*

10:00am **Opening Remarks**

10:15am **3D Collagen Fibril Architecture Regulates Cancer Migration and Morphogenesis**, Stephanie Fraley, *University of California San Diego*

10:50am **The Extracellular Matrix Dictates Cellular Force Generation Through Tropomyosin-Dependent Mechanisms**, Ryan J. Petrie, *Drexel University*

11:25am **Regulation of Endothelial Cell Function and Fate Using the Extracellular Matrix**, Ngan F. Huang, *Stanford University*

**10:00am - 12:00pm** Guest Symposium II –The  
**Histochemical Society**  
**Imagining the Matrix – Just Do it Right**

*Location:* Summerlin E

*Chairs:* Liliana Schaefer, *Goethe University* and Charles Frevort, *University of Washington*

10:00am **Introduction: The Relevance of Histochemistry and Immunohistochemistry in the Era of “Omics”**

10:15am **Rediscovering the Interstitium: The Effect of Tissue Fixation and Processing on the Extracellular Matrix**, Stephen Hewitt, *National Cancer Institute, NIH*

10:40am **Advances in Digital Imaging and Microscopy That Allow for Better Imaging of the Extracellular Matrix (ECM)**, Paul Goodwin, *AppliedPrecision/GE*

11:05am **Quantitative Analysis of the ECM Using Special Stains, Immunohistochemistry, and Quantitative Digital Pathology**, Charles Frevort, *University of Washington*

11:40am **Panel Discussion**

**10:00am - 12:00pm** Guest Symposium III -  
**Alport Syndrome Foundation**

*Location:* Summerlin F

*Chair:* Jeffrey Miner, *Washington University School of Medicine*

10:00am **Biochemical Mechanisms of Collagen IV Assembly**, Gautam Jay Bhawe, *Vanderbilt University Medical Center*

10:30am **Proteomics of the Glomerular Basement Membrane in Alport Syndrome**, Rachel Lennon, *University of Manchester*

11:00am **Targeting the Activin Receptor to Slow Progression of Alport Syndrome**, Keith Hruska, *Washington University School of Medicine*

11:30am **Modelling Alport Syndrome Using Patient-Derived Kidney Organoids**, Pinyuan Tian, *University of Manchester*  
Poster B001

11:45am **Collagen Hybridizing Peptide: New Molecular Probe for In Vitro and In Vivo Detection of Degraded and Denatured Collagen**, Michael Yu, *University of Utah*  
Poster B002

**12:00-6:00pm** Exhibits  
*Location: Summerlin Foyer*

**12:00-1:00pm** Break – Lunch on Your Own

**1:00-2:30pm** Concurrent Sessions

**Concurrent 1: Matricellular Proteins**

*Location: Summerlin D*

*Chair: Olga Stenina-Adognravi, Cleveland Clinic*

1:00pm **Thrombospondins in Tissue Remodeling**, Olga Stenina-Adognra, *Cleveland Clinic*

1:30pm **Activation of Cancer-associated Fibroblasts Is Required for Metastasis in A Murine Model of Melanoma**, Andrew Leask, *University of Western Ontario*  
Poster B003

1:45pm **Dysregulation of Matricellular Protein Thrombospondin-2 in Diabetes; TSP2 Deficient Hydrogel Derived from Extracellular Matrix Accelerates Diabetic Wound Healing**, Britta Kunkemoeller, *Yale University*  
Poster B004

2:00pm **Connective Tissue Growth Factor Is Secreted as A Preproprotein that Requires Proteolytic Activation**, Ole J. Kaasboell, *Oslo University Hospital, Institute for Surgical Research*  
Poster B005

2:15pm **SPARC Produced by Bone-Marrow Derived Cells Contributes to Myocardial Fibrosis**, Hannah Riley, *MUSC*  
Poster B006

**Concurrent 2: Proteoglycans**

*Location: Summerlin E*

*Chair: Liliana Schaefer, Goethe University*

1:00pm **Proteoglycan Signaling at the Crossroads**, Liliana Schaefer, *Goethe University*

1:30pm **Versican Is Required for Primary Hematopoiesis and Yolk Sac Vasculogenesis in the Mouse Embryo**, Sumeda Nandadasa, *Cleveland Clinic Lerner Research Institute*  
Poster B007

1:45pm **Endorepellin Evokes A Pro-mitophagic Transcriptomic Signature and Regulates Mitochondrial Homeostasis in Endothelial Cells**, Thomas Neill, *Thomas Jefferson University*  
Poster B008

2:00pm **ADAMTS5 Is Coupled with Mechanical Load During Mandibular Condylar Development**, Alexandra Rogers, *Medical University of South Carolina*  
Poster B009

2:15pm **Biofabrication of An Ideal ECM Mimetic to Function As A Small Diameter Artery**, William D. Wagner and Harleigh J. Warner, *Wake Forest University School of Medicine*  
Poster B010

**Concurrent 3: Collagens**

*Location: Summerlin F*

*Chair: Sergei Budko, Vanderbilt University Medical Center*

1:00pm **Collagen IV Assembly Mechanisms**, Sergei Budko, *Vanderbilt University Medical Center*

1:30pm **VPS33b Is Essential for Collagen Homeostasis**, Joan Chang, *Wellcome Centre for Cell-Matrix Research, University of Manchester*  
Poster B011

1:45pm **Zebrafish Round Mutations Reveal A Novel Post-Golgi Collagen Secretory Pathway Linked to a Developmental TICCA Syndrome**, Gokhan Unlu, *Vanderbilt University*  
Poster B012

2:00pm **A Fibronectin Matrix-Based Mechanism for Proteolytic Processing of Procollagen I**, Jared Saunders, *Princeton University*  
Poster B013

2:15pm **Structural Insights Into Collagen Lysyl Hydroxylases**, Hou-Fu Guo, *The University of Texas MD Anderson Cancer Center*  
Poster B014

**2:30-2:45pm** Break

*Location: Veranda*

**2:45-4:15pm** Concurrent Sessions

**SIS 1: Trainee Led Session: Extracellular Vesicles- The Next SMALL Thing**  
*\*Session Sponsored by Bio-Techne and System Biosciences, LLC.*



*Location: Summerlin D*

Organizer: Shyam Kumar Bandari, *University of Alabama at Birmingham*

2:45pm **Tumor Exosomes: From Mediators of Systemic Disease to Biomarkers of Metastatic Spread**, Irina Matei, *Drukier Institute for Childrens Health and Meyer Cancer Center*  
Poster B015

3:05pm **Chemoexosomes Secreted By Myeloma Cells Enhance Osteoclast Formation and Promote Aggressive Myeloma Bone Disease**, Shyam Kumar Bandari, *University of Alabama at Birmingham*  
Poster B016

3:25pm **Inflaming the Masses: Glioma Exosomes Promote Inflammatory Response in Normal Brain**, Michael W Graner, *University of Colorado Denver*  
Poster B017

3:45pm **PMN-derived Exosomes Are New Pathogenic Entities in COPD Lung Disease**, Amit Gaggar, *University of Alabama at Birmingham*

4:00pm **Exosomes in Fibronectin Matrix Organization**, Merlyn Emmanuel, *Vanderbilt University School of Medicine*

**Concurrent 4: Elastic Fiber Proteins**

*Location: Summerlin E*

*Chair: Hiromi Yanagisawa, University of Tsukuba*

2:45pm **Short Fibulins in Maintenance of Vessel Walls**, Hiromi Yanagisawa, *University of Tsukuba*

3:15pm **Fibulin-4 Deficiency Differentially Affects TGF $\beta$  Signaling As Well As Cytoskeleton Structure and Dynamics**, Joyce Burger, *Erasmus Medical Center*  
Poster B018

3:30pm **Molecular Interaction Between Elastogenic Proteins Impacting Matrix Assembly and Function**, Heena Kumra, *McGill University*  
Poster B019

3:45pm **Smooth Muscle and Endothelial Cell Contributions to Arterial Elastin Deposition**, M. Catalin Staiculescu, *Washington University*  
Poster B020

4:00pm **Aortic Smooth Muscle Cell Elastogenesis Driven by Adipose-Derived Mesenchymal Stem Cell Secreted Factors**, Aneesh K Ramaswamy, *University of Pittsburgh*  
Poster B021

**Concurrent 5: Matrix in Morphogenesis**

*Location: Summerlin F*

*Chair: Sarah Knox, UCSF*

2:45 pm **It Takes Nerve: How Neuronal Cues Control Organ Morphogenesis and Regeneration**, Sarah Knox, *University of California San Francisco*

3:15pm **Dystroglycan Regulates Signaling Pathways Critical to Postnatal Brain Development**, Holly Colognato, *Stony Brook University*  
Poster B022

3:30pm **ECM Omics Identifies Signature ECMs for the Sites of Inter-tissue Interactions in Mouse Hair Follicles**, Ko Tsutsui, *Riken Center for Biosystems Dynamics Research*  
Poster B023

3:45pm **ADAMTS9 and ADAMTS20 Have a Dual Function in ECM Remodeling and Biogenesis of the Primary Cilium**, Sumeda Nandadasa, *Cleveland Clinic Lerner Research Institute*  
Poster B024

4:00pm **Mouse B3glct Knockout: A Model for Congenital Hydrocephaly and Craniofacial and Skeletal Dymorphology**, Bernadette C. Holdener, *Stony Brook University*  
Poster B025

**4:15-4:30pm** Break

*Location: Veranda*

**4:30-6:00pm** President's Welcome & Award Talks

*Location: Summerlin E-F*

Chair: Joanne Murphy-Ullrich, *ASMB President*

4:30pm **Junior Investigator Awardee**  
**Decoding the Matrix**, Alexandra Naba, *University of Illinois at Chicago*

5:00pm **Iozzo Award Winner**  
**The Complex and Dynamic Matrix Niche of the Kidney Glomerulus**, Rachel Lennon, *University of Manchester*

5:30pm **Senior Investigator Awardee**  
**How to Build a Matrix**, Jean Schwarzbauer, *Princeton University*

**6:00-7:00pm** Opening Reception

*Location: Veranda*

**7:00-7:15pm** Founders Award Talk

*Location: Summerlin E-F*

Introduction by: Robert Mecham, *Washington University St. Louis*

**Mechanical Force and Matrix Regulation of Tumor Initiation and Progression**, Vincent Fiore, *The Rockefeller University*

**7:15-8:00pm** Keynote Lecture

*CHAIR: Lynn Sakai, ASMB President Elect*

*Location: Summerlin E-F*

**Tumor Exosomes and Exomeres Promote Cancer Metastasis and Systemic Disease**, David Lyden, *Weill Cornell Medical College*

**Monday, October 15<sup>th</sup>**

**7:15-8:30am** Career Mentoring Breakfast

*(Pre-registration Required)*

*Discussion begins at 7:30am*

*Location: Veranda C*

**7:30am-5:30pm** Registration and Exhibits

*Location: Summerlin Foyer*

**7:30-8:30am** Breakfast

*Location: Veranda*

**8:30-10:00am** Plenary I: Novel Approaches and Technologies to Investigate the Extracellular Matrix

*Location: Summerlin E-F*

*Chair: Alexandra Naba, University of Illinois at Chicago*

8:30am **Advanced Methods to Explore Extracellular Matrix Architecture**, Kirk Hansen, *University of Colorado School of Medicine*

9:00am **ECM Remodelling During Cancer Progression**, Janine Erler, *University of Copenhagen*

9:30am **A Multiscale View of Breast Tumor-ECM Interactions**, Joe Gray, *Oregon Health and Science University*

**10:00-10:30am** Coffee Break

*Location: Veranda*

**10:30-12:00pm** **Plenary II: ECM in Disease, Aging and Regeneration**

*Location: Summerlin E-F*

*Chair: Suneel Apte, Cleveland Clinic Foundation*

10:30am **Collagen as a Target for NSAID-Based Breast Cancer Prevention—A Tribute to Patricia Keely**, Pepper Schedin, *Oregon Health & Science University*

11:00am **Imaging, Modeling, and Modifying Matrix Remodeling Following Myocardial Infarction**, Jeffrey Holmes, *University of Virginia*

11:30am **Hippo/Yap Signaling in Heart Regeneration**, James Martin, *Baylor University*

**12:00-12:30pm** **ASMB Business Meeting**

*Chair: Joanne Murphy-Ullrich, ASMB President*

*Location: Summerlin E-F*

**12:30-2:30pm** **Poster Session I**

*Location: Summerlin A-B-C*

Odd Number Boards Present

**2:30-4:00pm** **Concurrent Sessions**

**Concurrent 6: Structure & Assembly of ECM**

*Location: Summerlin D*

*Chair: Kiyotoshi Sekiguchi, Osaka University*

2:30pm **Mechanistic Basis for the Laminin Recognition by Integrin**, Kiyotoshi Sekiguchi, *Osaka University*

3:00pm **Collagen IV Scaffolds are Coated with Agrin/Perlecan: A Unique Organizational Feature of a Model Basement Membrane**, Elena Pokidysheva, *Vanderbilt University Medical Center*  
Poster B026

3:15pm **Formation of Lamellae in the Corneal Stroma: New Insights in the Underlying Pathomechanism of Keratoconus**, Uwe Hansen, *Institute for Musculoskeletal Medicine, University Hospital Muenster*  
Poster B027

3:30pm **Hyaluronic Acid-Mediated Macromolecular Crowding to Stimulate Human Cell-Derived Matrix Deposition**, Dalia Shendi, *Worcester Polytechnic Institute*

Poster B028

3:45pm **Proteomic Analysis of Extracellular Matrix Dynamics During Mouse Forelimb Development**, Kathryn R. Jacobson, *Purdue University*

Poster B029

**Concurrent 7: ECM of Inflammation, Infection and Immunity**

*Location: Summerlin E*

*Chair: David R. Soto-Pantoja, Wake Forest School of Medicine Comprehensive Cancer Center*

2:30 pm **Thrombospondin-1 Regulates Microbiota and Metabolic Associated Inflammation to Impact Carcinogenesis**, David R. Soto-Pantoja, *Wake Forest School of Medicine Comprehensive Cancer Center*

3:00pm **ADAMTS7 and Influenza Virus Immunity**, John Stambas, *Deakin University*  
Poster B030

3:15pm **Thrombospondin-4 Produced by Pro-Inflammatory Macrophages Promotes Inflammation**, Mohammed Tanjimur Rahman, *Cleveland Clinic*  
Poster B031

3:30pm **Extracellular Superoxide Dismutase (EC-SOD) Knockout Mice Have Worse Alveolarization, Inflammation and Cytokine Elaboration After Neonatal Hyperoxia Exposure**, Rashmin C. Savani, *University of Texas Southwestern Medical Center*  
Poster B032

3:45pm **Distinct Sorting of Subsets of Extracellular Vesicles Expressing CD63, MHC Class 1, and CD47 in Cell-Cell Communication**, Sukhbir Kaur, *Center for*

*Cancer Research, National Cancer Institute,  
National Institutes of Health  
Poster B033*

### **Concurrent 8: Mechanosensing**

*Location: Summerlin F*

*Chair: Ashley Brown, North Carolina State  
University and University of North Carolina  
at Chapel Hill*

2:30pm **Understanding the Role of Platelet-Mediated Fibrin Clot Retraction in Wound Repair**, Ashley Brown, *North Carolina State University and University of North Carolina at Chapel Hill*

3:00pm **Non-Coding Mechanogenomic Regulation Identified in Human Cardiomyocytes**, Adam J Engler, *University of California San Diego*  
Poster B034

3:15pm **Mechanical Cell Communication and Its Influence on Organization of Cellular Structures**, Daniel Rüdiger, *Ludwig-Maximilians University, Munich*  
Poster B035

3:30pm **Mechanotransduction of the Endothelial Glycocalyx Mediates Nitric Oxide Production Through Activation of TRP Channels**, X. Frank Zhang, *Lehigh University*  
Poster B036

3:45pm **Myosin II Governs Intracellular Pressure and Traction Stress by Distinct Mechanisms**, Kimheak Sao, *Drexel University*  
Poster B037

**4:00-4:30pm** Coffee Break

*Location: Veranda*

**4:30-6:00pm** Concurrent Sessions

### **Concurrent 9: Tumor Microenvironment**

*Location: Summerlin D*

*Chair: Cyrus Ghajar, Fred Hutchinson Cancer  
Research Center*

4:30pm **Cell Cycle Independent Protection of Dormant Tumor Cells by the Perivascular Niche**, Cyrus Ghajar, *Fred Hutchinson Cancer Research Center*

5:00pm **DDR1 Regulates the Construction of a Dormancy-Supportive Niche By Coordinating the Assembly of a Pro-Quiescence ECM Proteome**, Jose Javier Bravo-Cordero, *The Tisch Cancer Institute, Icahn School of Medicine at Mount Sinai*  
Poster B038

5:15pm **Stromal PTEN Regulates Extracellular Matrix Organization in the Mammary Gland**, Caitlin Jones, *The Ohio State University*  
Poster B039

5:30pm **Targeting CD47 as a Therapeutic Strategy for Breast Cancer Prevention**, Tiffany M. Newman, *Wake Forest School of Medicine*  
Poster B040

5:45pm **Exploiting the ECM for Noninvasive Imaging of Tumor Progression and Metastases**, Noor Jaiikhani, *Howard Hughes Medical Institute, Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology*  
Poster B041

### **Concurrent 10: ECM of Aging**

*Location: Summerlin E*

*Chair: William Parks, Cedars-Sinai*

4:30pm **Macrophage Function in Fibrosis**, William Parks, *Cedars-Sinai Medical Center*

5:00pm **Alterations in Protein Composition of Aging, Photoaging, and Anti-Inflammatory Aging Models of the Skin with a Focus on the Extracellular Matrix**, Ryan C Hill, *University of Colorado-Denver*  
Poster B042

5:15pm **Circulating Fibrillin-1 Among Older US Men Without Diabetes: Associations with Angina, Obesity and High Density Lipoprotein**, Lynn M. Marshall, *Oregon Health and Science University*

Poster B043

5:30pm **Hyaluronan and TSG-6 in Alzheimer's Disease Neuropathology**, May J. Reed, *University of Washington*  
Poster B044

5:45pm **Senescence Diminishes the Responsiveness of Primary Human Mesenchymal Stem Cells to Substrate Stiffness**, Venkatesh Mallikarjun, *Wellcome Centre for Cell-Matrix Research, University of Manchester*  
Poster B045

**Concurrent 11: Cardiovascular ECM**

*Location: Summerlin D*

*Chair: Luisa Iruela-Arispe, University of California Los Angeles*

4:30pm **Vascular Regeneration in Adult Arteries**, Luisa Iruela-Arispe, *University of California Los Angeles*

5:00pm **The Discoidin Domain Receptor-1 Acts as a Mechanotransducer in Vascular Smooth Muscle Cells to Promote Vascular Calcification**, David Ngai, *University of Toronto and Ted Rogers Centre for Heart Research*  
Poster B046

5:15pm **4-Phenylbutyrate Promotes Vascular Smooth Muscle Cell Recruitment and Reduces Intracerebral Hemorrhage Severity in Col4a1 Mutant Mice**, Genki Hayashi, *University of California San Francisco*  
Poster B047

5:30pm **Point Mutation in the Copper Binding Domain of Lysyl Oxidase Causes Aortic Dilation Modified By Genetic and Environmental Influences**, Beth Kozel, *National Heart, Lung, and Blood Institute, National Institutes of Health*  
Poster B048

5:45pm **Lysyl Oxidase Insufficiency Exacerbates the Vascular Disease Caused by Fibulin-4 Mutations**, Michelle Lin, *Washington University School of Medicine*

Poster B049

*FREE EVENING*

**Tuesday, October 16<sup>th</sup>**

**7:15-8:30am** **Women Mentoring Women Breakfast** (*Pre-registration Required*) *Discussion begins at 7:30am*  
*Location: Veranda C*

**7:30am-5:30pm** **Registration and Exhibits**  
*Location: Summerlin Foyer*

**7:30-8:30am** **Breakfast**  
*Location: Veranda*

**8:30-9:30am** **Plenary III: Signaling From the Matrix**  
*\* Session Sponsored by the Journal of Histochemistry & Cytochemistry*  
*Location: Summerlin E-F*  
*Chair: Jean Schwarzbauer, Princeton University*

8:30am **Milieu Molecules and Localized TGF-Beta Signaling**, Timothy Springer, *Harvard University*

9:00am **Human Genetics Aided Discovery of a New Metabolic Hormone**, Atul Chopra  
*Baylor College of Medicine*

**9:30-10:15am** **ISMB Distinguished Investigator Award Presentation**  
*Location: Summerlin E-F*  
*Introduction by: Liliana Schaefer, ISMB President*

**The Collagen Triple Helix at the Evolutionary Dawn of the Animal Kingdom**, Billy Hudson, *Vanderbilt University*

**10:15-10:30am** **Coffee Break**  
*Location: Veranda*

**10:30-12:00pm** **Plenary IV: Genetic Disorders Affecting Connective Tissue**  
*Location: Summerlin E-F*

*Chair:* Enid Neptune, *Johns Hopkins Medical Institute*

10:30am **Heritable Disorders of Bone and Cartilage**, Deborah Krakow, *UCLA*

11:00am **New Strategies to Identify Signaling Pathways Associated with Aneurysmal Disease in Mice with Marfan Syndrome**, Francesco Ramirez, *Icahn School of Medicine at Mount Sinai*

11:30am **The Role of Activin A in Tissue Homeostasis and in Fibrodysplasia Ossificans Progressiva**, Aris Economides, *Regeneron*

**12:00-2:00pm** **Poster Session II**

*Location:* Summerlin A-B-C

Even Number Boards Present

**2:00-3:30pm** **Concurrent Sessions**

**Guest Symposium IV: Matrix Biology Ireland**

*Location:* Summerlin F

*Chair:* Dimitrios Zeugolis, *NUI Galway*

2:00pm **Macromolecular Crowding Accelerates and Enhances Extracellular Matrix Deposition in Permanently Differentiated and Stem Cell Cultures**, Dimitrios Zeugolis, *NUI Galway*

2:30pm **Functionalized PEDOT Neuroelectrode Coatings Using Heparan Sulphate Mimetics**, Manus Biggs, *NUI Galway*

3:00pm **Systemically Administered Wound-Homing Peptide Accelerates Wound Healing By Modulating Syndecan-4 Function**, Tero Jarvinen, *University of Tampere*

**Concurrent 12: Skin BM, Wound Healing and Disease**

*Location:* Summerlin E

*Chair:* Peter Marinkovich, *Stanford University School of Medicine*

2:00pm **Molecular Therapies for Epidermolysis Bullosa**, Peter Marinkovich, *Stanford University School of Medicine*

2:30pm **A Novel Disease-modifying Treatment for RDEB: A Pre-clinical Study Targeting the Anti-fibrotic AT2 and MAS Receptors**, Rocco Bernasconi *Uniklinik Freiburg*  
Poster B050

2:45pm **The Different Roles of Laminin-332 and -511 in Keratinocyte Behaviors**, Jun Sasaki, *Nippi, Inc.*  
Poster B051

3:00pm **The Versican G1 Fragment, Serum-Derived Hyaluronan-Associated Proteins, Hyaluronan (VG1F-SHAP-HA) Complex Acts as a Mediator Between Wound Surface and Ointment Base in the Treatment of Pressure Ulcer**, Zenzo Isogai, *National Center for Geriatrics and Gerontology, Japan*  
Poster B052

3:15pm **Matrix Composition in 3-D Collagenous Bioscaffolds Modulates the Survival and Angiogenic Phenotype of Human Chronic Wound Dermal Fibroblasts**, Pascal Morissette Martin, *University of Western Ontario*  
Poster B053

**SIS 2: Trainee Led Session: Emerging Non-Canonical Intracellular Roles of Extracellular Matrix Proteins**

*Location:* Summerlin F

*Chair:* Davy Vanhoutte, *Cincinnati Children's Hospital Medical Center*

2:00pm **Deciphering Intracellular Roles of Thrombospondins During Heart and Skeletal Muscle Disease**, Davy Vanhoutte, *Cincinnati Children's Hospital Medical Center*

2:30pm **Distinct Intracellular Localization and Functions for Full Length MMP-2 and NTT-MMP-2 in Heart and Kidney Disease**, David Lovett, *University of California, San Francisco.*



2:50pm **Function of Secreted Protein Acidic and Rich in Cysteine (SPARC) as a Matricellular Chaperone.**, Alexandre Chlenski, *University of Chicago*  
Poster B054

3:10pm **MT-COMP Compromises Ligaments, Tendons and Joint Function**, Françoise Coustry, *McGovern Medical School at UTHHealth*  
Poster B055

**3:30-4:00pm** Coffee Break

*Location: Veranda*

**4:00-5:30pm** Concurrent Sessions

**Concurrent 13: Growth Factors and ECM**

*Location: Summerlin D*

*Chair: Karen Lyons, University of California Los Angeles*

4:00pm **CCN Proteins in Bone Formation and Mechanotransduction**, Karen Lyons, *University of California Los Angeles*

4:30pm **Latency and Antagonism in the Extracellular Regulation of TGFbeta and BMP Family Growth Factors**, Clair Baldock, *University of Manchester*  
Posters B057 and B058

4:45pm **LEMD3 Desensitizes Fibroblasts to Stiffness-driven TGF-beta Signaling**, Dwight M. Chambers, *Emory University and Georgia Institute of Technology*  
Poster B059

5:00pm **TGFβ and Aortic Disease Severity in MFS**, Marjolijn Renard, *Ghent University*  
Poster B060

5:15pm **Individual Smad2 Linker Region Residues Regulate the Genes Involved in Glycosaminoglycan Chain Initiation and Elongation on Proteoglycan, Biglycan**, Kamato Danielle, *University of Queensland*  
Poster B061

**Concurrent 14: Heritable Disorders of Connective Tissue**

*Session Sponsored by The Marfan Foundation*

*Location: Summerlin E*

*Chair: Shireen Lamande, Murdoch Children's Research Institute*

4:00pm **Modelling Cartilage and Bone Disorders Using Human iPSCs**, Shireen Lamande, *Murdoch Children's Research Institute*

4:30pm **Phenotypic Analysis of a Mouse Model for Marfanoid-Progeroid-Lipodystrophy Syndrome**, Silvia Smaldone, *Regeneron Pharmaceutical Inc.*  
Poster B062

4:45pm **Mouse and Human Genomic Studies Identify Modifiers of Blood Pressure and Supravalvar Aortic Stenosis in Elastin Insufficiency and Williams Beuren Syndrome**, Phoebe Parrish, *National Institutes of Health*  
Poster B063

5:00pm **Pain-related Phenotypes in A Murine Model for Classical Ehlers-Danlos Syndrome**, Fransiska Malfait, *Ghent University Hospital*  
Poster B064

5:15pm **Resetting Dysregulated Collagen-I Proteostasis in Osteogenesis Imperfecta**, Ngoc-Duc Doan, *Massachusetts Institute of Technology*  
Poster B065

**Concurrent 15: ECM in Musculoskeletal Biomechanics and Regeneration**

*Location: Summerlin F*

*Chair: Farshid Guilak, Washington University St. Louis*

4:00pm **Engineering New Biologic Therapies for Arthritis**, Farshid Guilak, *Washington University*

4:30pm **Discovery of Potential Therapeutic Targets for Post-Traumatic Osteoarthritis Using a Mechanical Injury Platform**, Farzad Yousefi, *University of Pennsylvania*

*Translational Musculoskeletal Research  
Center  
Poster B066*

4:45pm **RHAMM and CD44 Both Mediate the Influence of Hyaluronic Acid on Embryonic Myoblast Behavior**, Yue Leng, *Purdue University*  
Poster B067

5:00pm **Development of Tissue-Specific Matrix-Derived Microcarriers as a Platform for Adipose-Derived Stem/Stromal Cell Differentiation**, Anna Kornmuller, *The University of Western Ontario*  
Poster B068

5:15pm **Nitric Oxide Releasing Composite Hydrogels for Tendon Repair via Matrix Metalloproteinase Controlled Pathways**, Kaylee Meyers, *Michigan Technological University*  
Poster B069

**7:00-11:00pm** **Banquet – Crimson**  
(Advanced ticket purchase required.)

**Wednesday, October 17<sup>th</sup>**

**8:00am-12:00pm** **Registration**  
*Location: Summerlin Foyer*

**8:00am-11:00am** **Exhibits**  
*Location: Summerlin Foyer*

**8:00-9:00am** **Breakfast**  
*Location: Veranda*

**9:00-10:30am** **Plenary V: Therapeutic Strategies for ECM Diseases**  
*Location: Summerlin E-F*  
*Chair: Beth Kozel, National Institutes of Health*

9:00am **Inhibiting Fibronectin Assembly to Modify Tumor Microenvironment**, Weilan Ye, *Genentech Inc.*

9:30am **Targeting Regeneration Through Proteoglycans**, Jeffrey D. Esko, *University of California, San Diego*

10:00am **Targeting Matrix Receptors in Fibrotic Diseases**, Ambra Pozzi, *Vanderbilt University Medical Center*

**10:30-11:00am** **Coffee Break**  
*Location: Veranda*

**11:00am -12:30pm** **Concurrent Sessions**  
**Concurrent 16: ECM in Fibrosis**  
*Location: Summerlin D*  
*Chair: Kota Saito, Akita University*

11:00am **Mechanisms of Secretion in Fibrosis**, Kota Saito, *Akita University*

11:30am **Targeting Matrix-Mediated Signaling in Fibrosis**, Masha Poyurovsky, *Kadmon Corporation, LLC.*  
Poster B070

11:45am **Calreticulin Is Important for the Development of Renal Fibrosis and Dysfunction in Diabetic Nephropathy**, Ailing Lu, *University of Alabama at Birmingham*  
Poster B071

12:00pm **Fibronectin-Rich ECMs Store Disease-Relevant Memories that Drive Altered Fibroblast Signaling and Phenotype Through Integrin Switching**, Victoria Stefanelli, *Georgia Institute of Technology*  
Poster B072

12:15pm **A Serological Biomarker Measuring True Formation of Collagen Type III (PRO-C3) is Related to Histological Parameters of Non-Alcoholic Steatohepatitis**, Signe Holm Nielsen, *Nordic Bioscience & Technical University of Denmark*  
Poster B073

**Concurrent 17: Proteases and ECM Remodeling**

*Location: Summerlin E*

*Chair: Dirk Hubmacher, Icahn School of Medicine at Mt. Sinai*

11:00am **ADAMTS17: Its Substrates and Its Biological Function**, Dirk Hubmacher, *Icahn School of Medicine at Mt. Sinai*

11:30am **Fibrillin-2 Proteolysis by Adamts6 is Essential for Cardiac and Limb Development**, Timothy Mead, *Cleveland Clinic Lerner Research Institute*  
Poster B074

11:45am **In Situ Detection of Degraded and Denatured Collagen Via Triple Helical Hybridization: New Tool in Histopathology**, Yang Li, *University of Utah*  
Poster B075

12:00pm **Intracellular MMP12 Increases Breast Cancer Metastasis**, Pirjo Astrom, *University of British Columbia, and University of Oulu*  
Poster B076

12:15pm **Cigarette Smoking Induces Overexpression of Elastinolytic Cathepsin S**, Pierre-Marie Andrault, *Tours University*  
Poster: B077

**SIS 3: Trainee Led Session: The Development and Use of 3D Systems to Investigate Biological Function**

*Location: Summerlin F*

*Chair: Reut Shainer, National Institutes of Dental and Craniofacial Research, NIH*

11:00am **3D Organoids of Skeletal Stem Cell in Vitro and In Vivo**, Pam Robey, *National Institutes of Dental and Craniofacial Research, NIH*

11:30am **Periosteal Cells Derived from Long Bone Are Unique from Those Derived from Calvaria**, Reut Shainer, *National Institutes of Dental and Craniofacial Research, NIH*  
Poster B078

11:50pm **A Systems Biology Approach to Studying Melanoma Invasion in a 3D Tumor Microenvironment**, Amanpreet Kaur, *University of Pennsylvania*  
Poster B079

12:10pm **Extracellular Matrix Components Isolated from Diabetic Mice Alters Cardiac Fibroblast Function Through the AGE/RAGE Signaling Cascade**, Stephanie Burr, *The University of Mississippi*  
Poster B080