WELCOME

B A L T I M O R E

25th ANNIVERSARY 2000-2025

NOV 16-19 2025

ASMB BIENNIAL MEETING

MATRIX MARVELS

25 YEARS OF PIONEERING PROGRESS, INFINITE POTENTIAL AHEAD

Hilton Baltimore Inner Harbor

AMERICAN SOCIETY for MATRIX BIOLOGY

ASMB 2025 | MATRIX MARVELS

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AMERICAN SOCIETY for MATRIX BIOLOGY

Dear Matrix Biology Community,

Welcome to this special Biennial Conference of ASMB that marks the silver anniversary of our society.

Our Incoming President, Tom Barker, and the Program Committee have assembled a special program to capture 25 years of matrix focused research, pioneering progress, and infinite potential ahead. The "25th ASMB Matrix Marvels" conference will enable participants to appreciate an historical view of matrix research from Dr. Peter Yurchenko a pioneer in the laminin field who received the ASMB Senior Investigator Award. We are also delighted that Dr. Viola Vogel will give the keynote lecture on the mechanobiology of diseased extracellular matrix. We are also pleased to recognize Yao Yao (Iozzo Award Winner), Brian Aguado (ASMB Junior Investigator) and Neha Dinesh (Founders Awardee).

I encourage you to attend the Poster Flash Talks where trainees will present their work in progress in three minutes with three slides! Also, make sure to come and support talks from pre-doctoral and post-doctoral fellows selected for the Iozzo Trainee Award. The awards will be presented by our past-president Jeff Miner.

ASMB will host two mornings of breakfast panel discussions on a range of timely topics – including the always popular mentoring roundtables which facilitate informal discussions between younger investigators and trainees and more established scientists. In this very difficult time in science and constant uncertainty in our professional lives, words of wisdom from established investigators who have lived through the ups and downs of science in the past 25 years might help our junior investigators to realize that there is a bright future in front of them and that scientists never give up!

We are pleased to see a large number of poster submissions. Please take advantage of these sessions to meet your colleagues one on one and remember that at the posters you might form new friendships, new collaborations, or find a next home for your research! This year the ASMB Business meeting will be held at 8 am on Wednesday. Please join us for breakfast, but most importantly, participate in discussions about our current and future activities. Finally, we hope to see you at our social event on Tuesday night. Please hurry up if you have not bought a ticket yet, as they are going fast!. A major change this year is that lunches will not be provided; however, there are plenty of choices nearby, so make sure to enjoy a lunch followed by a walk around the near Harbor.

This conference is the culmination of the dedicated and professional efforts of many people. Kendra LaDuca, ASMB Executive Director, is without a doubt our 'orchestra director': She brings us all together, she oversees essential details, and her dedication to the success of our society is immensely appreciated. Tom Barker, the Program Committee, Executive Council, and ASMB Council members have all made important contributions to the content and organization of this special 'silver' conference.

As always, our sponsors are essential. We are grateful for the continuing support of the NIH and the National Institute of Arthritis and Musculoskeletal Diseases (NIAMS); the American Society for Investigative Pathology; the Histochemical Society; The Company of Biologists; the Marfan, Alport Syndrome, Ines Mandl Research, and the Choroideremia Research Foundations, as well as the many industry sponsors noted on the inside cover, who make this event and support for travel awards possible.

And finally, thank you to all the participants for coming to our biennial meeting, despite financial and travel constraints. Your participation in these challenging times in science is a clear demonstration that love for science and discovery and in-person scientific networking always prevails.

Best wishes and safe travels,

Ambra Pozzi

ASMB President

25th ANNIVERSARY 2000-2025

Keynote Speaker

ASMB Welcomes
Prof. Dr. Viola Vogel

SUNDAY, NOVEMBER 16TH 6:30p.m.

VIOLA VOGEL, PHD

ETH ZÜRICH, SWITZERLAND

The Mechanobiology of diseased extracellular matrix

AMERICAN SOCIETY for MATRIX BIOLOGY

ASMB 2025 MATRIX MARVELS

American Society for matrix Biology 2025 Awardees

ASMB honors the following researchers for their outstanding achievements.

Congratulations!

Senior Investigator

Peter Yurchenco, Rutgers – *RW Johnson Medical School*

Junior Investigator

Brian Aguado, *University of California San Diego*

Iozzo Award

Yao Yao, *University of South Florida*

Founders Award

Neha Dinesh, *McGill University*

ISMB Distinguished Investigator

Sylvie Ricard-Blum, *University of Lyon*





American Society for matrix Biology 2025 Awardees

ASMB Travel Awards

Upendra Chalise, University of Minnesota

Stephen Decker, University of Utah

Samantha Muscat, University of Rochester

Melika Osareh, North Carolina State University & UNC-Chapel Hill

Kristy Urquhart, Rush University Medical Center

ASIP Sponsored Travel Award

Mark Arranguez, University of Delaware

Danielle Klunk, University of Virginia

Julieta Rios-Vergara, Temple University

Yu Sun, Princeton University

Hayley Sussman, University of Virgina

ASIP Sponsored Travel Award

Md Al Azim, New York Medical College

Amanpreet Kaur Bains, University of Illinois at Chicago

Mayuri Dutta, University of Wisconsin-Madison

Divya Gupta, Cedars-Sinai Medical Center

Marin Herrick, University of Delaware

Eileen Hwang, University of Utah

Rylee King, University of Delaware

Qingyang Li, Carnegie Mellon University

Thomas Manzoni, University of Delaware

Dharma Pally, Univ. of Illinois at Chicago

ASIP Sponsored Travel Award

Jessica Faragher, Univ. of South Dakota School of Medicine, Sanford Research

Iram Fatima Siddiqui, McGill University

Jingjing You, The University of Sydney

Iozzo Trainee Finalists

PostDoc Category

Upendra Chalise, University of Minnesota

Stephen Decker, University of Utah

Lexi Rindone, Johns Hopkins University

Student Category

Thomas Manzoni, University of Delaware

Melika Osareh, North Carolina State University & UNC-Chapel Hill

Iram Fatima Siddiqui, McGill University

ASMB Biennial Meeting ◆ November 16-19, 2025
Hilton Baltimore Inner Harbor
Baltimore, MD

"Matrix Marvels: 25 Years of Pioneering Progress, Infinite Potential Ahead"

Meeting Chair: Thomas Barker, PhD, *University of Virginia*

Sunday, November 16th

7:30am Fun Run/Walk Around the harbor and peninsula – Optional Activity!
Join ASMB colleagues for a 5K scenic run/walk. Meet at the hotel entrance on West Pratt Street at 7:20am.

9:00am - 6:00pm Registration
Location: West Foyer

9:00am - 10:30am Special Interest Session: Enhancing Visibility and Engagement in Extracellular Matrix Research: A Dialogue with Journal Editors
Location: Peale
Chairs: Andrew Leask, *University of Saskatchewan*, and David Sherwood, *Duke University*

10:30am - 12:00pm Guest Symposia 1 & 2, Poster Flash Talks

Guest Symposium 1: Society for Biomaterials Biomaterials and the Matrix: Society for Biomaterials Guest Symposia
Location: Peale

Chair: Dan Abebayehu, *University of Virginia*

10:30am **Multiscale Biomolecular Assembly for Immunotherapy Design and Delivery**, Robert Oakes, *University of Delaware*

11:00am **The Mechanobiology of Senescence,** Jude Phillip, *Johns Hopkins University*

11:30am **Integrin Expression Identifies Muscle Progenitor Cell Heterogeneities for Skeletal Muscle Tissue Engineering,** Keely Laurence*, University of Delaware*

11:45am **Biodistribution and in vivo retention time of fibrin-targeting silver loaded platelet-like-particles,** Luke Tucker*, North Carolina State University*

Guest Symposium 2: Choroideremia Research Foundation: Retinal ECM dynamics in inherited retinal diseases
Location: Johnson

Chairs: Thomas Barker, *University of Virginia*, and Malia Edwards, Johns Hopkins University, *Wilmer Eye Institute*

10:30am **Introduction**

10:35am **Elucidating the role of hemicentin-1 in the retina,** Conor Sugden*, University of Manchester*

10:50am **Proteoglycan Interactions in the neuronal retina**, Ezequiel Salido, *West Virginia University*

11:10pm **Proteases and atrophy of the choroidal vasculature in retinal degeneration**, Abigail Fahim, *University of Michigan*

11:30pm **Glial remodeling in retinal degeneration: interactions with ocular basement membranes and possible scar formation,** Malia Edwards, Johns Hopkins University, *Wilmer Eye Institute*

11:50pm Panel Discussion

Poster Flash Talks
Three minutes, Three slides! Trainees will present their work in this fast-paced session. This session will include a welcome from the MESHWORK.
Location: Holiday 4-5

Chairs: Karen Posey, *McGovern Medical School at The University of Texas Health Science Center at Houston* and Jessica Wagenseil, *Washington University St. Louis. Refer to the meeting app (Whova) for the list of flash talks.*

12:00-1:30pm **Break – Lunch on Your Own**

1:30-3:00pm **Concurrent Sessions 1-3**

Concurrent 1: Collagens
Location: Holiday 4-5

Chair: Nancy Forde, *Simon Fraser University*
Co-Chair: Arun Asif*, Albany Medical College*

1:30pm **Unravelling the Mechanical Properties of Collagens at the Individual Protein Level**, Nancy Forde, *Simon Fraser University*

2:00pm **Role of Sulfilimine Bonds in Collagen IV enabling Animal Evolution,** Billy Hudson*, Vanderbilt University Medical Center*

2:15pm **Recombinant Human Type I Collagen using CHO Cells,** Kazunori Mizuno*, Nippi, Inc.*

2:30pm **Iron Dysregulation Drives ECM Remodeling to Promote TNBC Invasion,** Arun Asif*, Albany Medical College*

2:45pm **Dual-Cellular 3D Bioprinting of Corneal Stroma and Endothelium Using Collagen I and IV Bioinks,** Jingjing You*, The University of Sydney*
Travel Awardee

Concurrent 2: The Provisional Matrix: Fibrin, Fibronectin and Fibulins
Location: Peale
Chair: Dieter Reinhardt, *McGill University*
Co-Chair: Carmen Halabi*, Washington University School of Medicine*

1:30pm **Fibronectin and Fibulin-associated Mechanisms Forming Matrix Marvels,** Dieter Reinhardt, *McGill University*

2:00pm **Astrocytes Increase Fibronectin Matrix Assembly and Upregulate Fibronectin-Binding Proteins in Response to Local Stimuli,** Yu Sun*, Princeton University*
Travel Awardee

2:15pm **Deciphering the Mechanisms of SNED1 Fibrillogenesis: A Role for Fibronectin and Collagen I?,** Leanna Leverton*, University of Illinois at Chicago*

2:30pm **Fibulin-5 Regulates Resistance Artery Function via Its Interaction with Î²1 Integrin and Downstream ROCK Signaling,** Carmen Halabi*, Washington University School of Medicine*

2:45pm **Synthetic-Platelet Loaded Fibrin Matrix Enhance Exosome Production of Mesenchymal Stem Cells,** Melika Osareh*, North Carolina State University & UNC-Chapel Hill*
Iozzo Trainee Award Finalist, Travel Awardee

Concurrent 3: PTMs and the Glyco-Matrix
Location: Johnson
Chair: Yoshi Ishikawa, *University of California San Francisco*
Co-Chair: Claudia Staab-Weijnitz*, University of Colorado*

1:30pm **Sweet Collagen IV: A Study of a Heavily Post-Translationally Glycosylated Molecule**, Yoshi Ishikawa, *University of California San Francisco*

2:00pm **Metabolic Regulation of Stem Cell Fate through Modulation of the Extracellular Matrix,** Zeenat Rashida*, UCLA*

2:15pm **Collagen Post-Translational Modifications are Altered in Pulmonary Fibrosis Including Within ECM Receptor Binding Sites,** Claudia Staab-Weijnitz*, University of Colorado, Anschutz Medical Campus*

2:30pm **Mapping the Collagen Landscape: Tissue-Specific Chain Expression and Modifications in Mice,** Ayush Nigam*, Indian Institute of Technology, Mandi*

2:45pm **Effect of Ionic Strength on Flexibility and Network formation of Collagen IV,** William Yost*, The Ohio State University*

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

3:30-5:00pm **Concurrent Sessions 4-6**

Concurrent 4: Matricellular Proteins
Location: Holiday 4-5
Chair: Marisa Merina, *University of Liverpool*
Co-Chair: Sumit Bhutada*, Cleveland Clinic*

3:30pm **Tuning Proliferation and Death in Development and Disease**, Marisa Merina, *University of Liverpool*

4:00pm **CCN1 matricellular signaling links metabolic reprogramming to cellular dedifferentiation for intestinal regeneration,** Joonil Jun*, University of Illinois at Chicago*

4:15pm **Proteolytic Remodeling of Ocular Extracellular Matrix: Insights from the Vitreous, Zonule, and Aqueous Humor Degradome,** Sumit Bhutada*, Cleveland Clinic*

4:30pm **Pseudoachondroplasia (MT-COMP) Mouse Model of Progressive Chronic Pain Associated with Matrix Abnormalities and Joint Degeneration,** Karen Posey*, McGovern Medical School at The University of Texas Health Science Center at Houston*

4:45pm **Preclinical Evaluation of a Novel Thrombospondin-4-Based Gene Therapy to Treat Duchenne Muscular Dystrophy,** Davy Vanhoutte*, Cincinnati Children's Hospital Medical Center*

Concurrent 5: Matrix crosslinking and remodeling
Location: Peale
Chair: Carol Feghali-Bostwick, *MUSC*
Co-Chair: Ana Maria Porras*, University of Florida*

3:30pm **Leveraging Anti-fibrotic Pathways Across Organs**, Carol Feghali-Bostwick, *Medical University of South Carolina*

4:00pm **Age-Dependent Remodeling of Extracellular Matrix in Brain Meninges,** Liudmila Romanova*, Rush University Medical Center*

4:15pm **Genomic Profiling and Functional Validation of Bacteroides Enzymes Driving Extracellular Matrix Degradation,** Ana Maria Porras*, University of Florida*

4:30pm **Nascent extracellular glycoprotein profiling during critical lung stages: a nascent glycoproteome atlas for studying lung rejuvenation,** Qingyang Li*, Carnegie Mellon University*
Travel Awardee

4:45pm **Role of Macrophageâ€“Adipocyte Communication in Obesity-Driven Inflammation,** Julieta Rios-Vergara*, Temple University*
Travel Awardee

Concurrent 6: Matrix receptors and signaling
Location: Johnson
Chair: Tim Spinger, Harvard University
Co-Chair: Marin Herrick*, University of Delaware*

3:30pm **Beyond Matrigel: New Agonists for Organoid Growth and Integrin Conformational Ensembles**, Tim Springer, *Harvard University*

4:00pm **A Novel Collagen Hybridizing Peptide for Activating LAIR-1 Inhibitory Pathway at Damaged Collagen Sites,** Regan Stephenson*, 3Helix*

4:15pm **The Receptor for Hyaluronan-Mediated Motility (RHAMM) Activates NFkB and the NLRP3 inflammasome and is a Critical Component in the Development of Bronchopulmonary Dysplasia,** Rashmin Savani*, University of Florida*

4:30pm **Mechanical Overload Destabilizes F-actin Leading to Dysregulation of Chondrocyte Matrix Homeostasis,** Marin Herrick*, University of Delaware*
Travel Awardee

4:45pm **Dissecting the Roles of SNED1-Integrin Interactions and the RGD and LDV Motifs in Cell Adhesion and Fibrillogenesis,** Dharma Tejeshwar Reddy Pally*, University of Illinois at Chicago*
Travel Awardee

5:00 - 5:15 **Break**

5:15-6:30pm **President's Welcome & Award Talks**
Location: Holiday 4-5

5:15pm ***President's Welcome,*** **Ambra Pozzi,** ***ASMB President***

5:30pm ***Junior Investigator Awardee*** **Title**, **Brian Aguado,** *University of California San Diego*

5:50pm ***Iozzo Award Winner*** **Endothelial laminin maintains the blood-brain barrier integrity by inhibiting Adcy2-cAMP-Epac signaling pathway**, **Yao Yao,** *University of South Florida*

6:10pm ***Senior Investigator Awardee*** **Polymerizing laminins: Assembly, functions and disorders**, **Peter Yurchenco,** *Rutgers University - RW Johnson Medical School*

6:30-6:40pm **Break**

6:40-7:45pm **Keynote Lecture**
Location: Holiday 4-5

Welcome from Thomas Barker, Meeting Chair and ASMB President Elect

The mechanobiology of diseased extracellular matrix, Viola Vogel, PhD, *ETH Zürich, Switzerland*

7:45-9:00pm **Welcome Reception**

Monday, November 17th

7:15-8:30am **Pastries & Panels – Three Topics**
Start Your Day with Insightful Conversations! Join us for interactive and informal Breakfast Discussion Sessions.

Location: Holiday 4-5 **Matrix Resources: What tools are out there?** *Chairs: Alexandra Naba and Rachel Lennon*

Location: Peale **Taking the next step, negotiating, setting up a lab** *Chair: Daniel Abebayehu*

Location: Johnson **From Invention to Impact: IP, Entrepreneurship, and Startups in Academic Research** *Chair: Davy Vanhoutte*

8:30-10:00am **Plenary I: Basement Membranes**

Location: Holiday 4-5
Chair: Roy Zent*, Vanderbilt University Medical Center*

8:30am **Identifying Mechanism-based and Mechanism-agnostic Interventions for Gould Syndrome**, Doug Gould, *University of California, San Francisco*

9:00am **Targeting Collagen for Therapy,** Sergei Boudko, *Vanderbilt University Medical Center*

9:15am **Intestinal Basement Membrane Repair Is Triggered by the Loss of Matrix Stiffness in Drosophila,** Andrea Page-McCaw, *Vanderbilt University*

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

10:30am-12:00pm **Concurrent sessions 7-9**

Concurrent 7: Engineering the Matrix: biomaterials and tissue engineering
Location: Holiday 4-5
Chair: Steven Caliari, *University of Virginia*
Co-Chair: Matthew Wolf*, National Cancer Institute, NIH*

10:30am **Viscoelastic hydrogel design for investigating fibroblast-macrophage crosstalk,** Steven Caliari, *University of Virginia*

11:00am **Zone-Specific Tuning of Hyaluronic Acid-Based Hydrogels to Generate Bioengineered Cartilage with Native-Like Zonal Properties,** Thomas Manzoni*, University of Delaware*
Iozzo Trainee Award Finalist, Travel Awardee

11:15am **Controlled Decorin Delivery from Injectable Microgels Promotes Scarless Vocal Fold Repair,** Riccardo Gottardi*, University of Pennsylvania | Children's Hospital of Philadelphia*

11:30am **MatriSpheres: A 3D Self-Assembly Platform Integrating Decellularized Matrix to Recapitulate Tumor Heterogeneity and Immune Regulatory Phenotype,** Matthew Wolf*, National Cancer Institute, NIH*

11:45am **Bioengineering Temporomandibular Joint (TMJ) in vitro models for cell-matrix and mechanobiology investigations,** Priti Mulimani*, University of Illinois Chicago*

Concurrent 8: Wound Healing Continuum anyway you slice it (cancer, fibrosis and healing)
Location: Peale
Chair: Boris Hinz, *University of Toronto*
Co-Chair: Hayley Sussman*, University of Virgnia*

10:30am **How Mesenchymal Stromal Cells Memorize Matrix Mechanics,** Boris Hinz, *University of Toronto*

11:00am **Investigating Macrophage-Mediated IL-1R1 Signaling in Pulmonary Fibrosis,** Hayley Sussman*, University of Virgnia* Travel Awardee

11:15am **Reducing Levels of Lumican to Remodel the Extracellular Matrix in Cardiac Fibrosis,** Chloe Rixon*, Eindhoven University of Technology (TU/e)*

11:30am **Th2-like exTregs Contribute to Th2 Expansion in ECM-treated Muscle Wound,** Haoning Yu*, Johns Hopkins University*

11:45am **CCN3-derived peptide BLR-200 attenuates bleomycin-induced fibrosis by preventing activation of engrailed-1/COL8A1-expressing universal fibroblasts,** Andrew Leask*, University of Saskatchewan*

Concurrent 9: Matrix in Medicine: Women's Health
Location: Johnson
Chair: Erika Moore, *University of Maryland*
Co-Chair: Francesca Duncan, *Feinberg School of Medicine Northwestern University*

10:30am **Polarizing Potential: Leveraging Integrin-ECM Dynamics to Guide Macrophage Fate,** Erika Moore, *University of Maryland*

11:00am **Cardiac Remodeling and Molecular Alterations in Ageing Female Rats,** Thea Stole, *University of Oslo*

11:15am **Senescence-Linked Fibrosis in the Post-Menopausal Human Ovary Revealed by p16-Based Histological Profiling and Spatial Transcriptomics,** Francesca Duncan, *Feinberg School of Medicine Northwestern University*

11:30am **Remodeling of The Maternal Mitral Valve During Pregnancy: A Recapitulation of Fetal Development?** Meghan Martin, *Florida International University*

11:45am **Investigating Progesterone Resistance and Fibrogenesis in Endometriosis Using Mechanosensitive and Long-Term Ex Vivo Lesion Platforms,** Danielle Klunk, *University of Virginia*
Travel Awardee

12:00-1:30pm **Lunch on your own**

12:15-1:15pm **HCS Business Meeting and Award Recognition**
Join the Histochemical Society as they honor their awardees. Stay for a brief business meeting where you will learn about the society's activities of the past year and plan for the coming year.

1:30-3:00pm **Concurrent Sessions 10-12**

Concurrent 10: Next Gen Matrix: advances in proteomics
Location: Holiday 4-5
Chair: Kirk Hansen, *University of Colorado*
Co-Chair: Zihan Ling, *Carnegie Mellon University*

1:30pm **Dissecting ECM Crosslinking: Proteomic Workflows from Model Systems to Human Disease,** Kirk Hansen, *University of Colorado*

2:00pm **The Degradome of ADAMTS8, a Protease Implicated in Pulmonary Arterial Hypertension,** Tina Burkhard, *University of Surrey*

2:15pm **Differentially Expressed Proteins Identified via Single Cell Proteomics Used as Spatial Omic Targets in Marfan Syndrome,** Ashley Dinh, *Cedars-Sinai*

2:30pm **Chemoselective Characterization of New Extracellular Matrix Deposition in Bioengineered Tumor Tissue,** Zihan Ling, *Carnegie Mellon University*

Concurrent 11: Engineering the Matrix: exploring tissue and ECM mechanics
Location: Peale
Chair: Jessica Wagenseil, *Washington University St. Louis*
Co-Chair: Jacopo Ferruzzi, *University of Texas at Dallas*

1:30pm **Biomechanics and ECM Remodeling in Thoracic Aortic Aneurysms,** Jessica Wagenseil, *Washington University St. Louis*

2:00pm **Hypoxia-induced Stroma-driven Extracellular Matrix Remodeling Impairs Immune Infiltration and Identifies Targeting Vulnerabilities in High-grade Serous Carcinoma,** Pilar de la Puente, *Sanford Research/ University of South Dakota School of Medicine*

2:15pm **Decorin Promotes Nascent Proteoglycan Retention in Cartilage Matrix by Strengthening Collagen II-Aggrecan Integration,** Thomas Li*, Drexel University*

2:30pm **Distinct Molecular and Structural Traits of Permanent versus Transient Cartilage in Early Development,** Jiaqi Xiang*, Drexel University*

2:45pm **Bioenergetic Pathways Regulate Distinct Patterns of Invasion and Extracellular Matrix Remodeling in Breast Cancer Cells Upon YAP/TAZ Activation,** Jacopo Ferruzzi*, University of Texas at Dallas*

Concurrent 12: Multi-cellular contributions to the ECM
Location: Johnson
Organized by ASMB trainees
Chair: Mallar Bhattacharya, *University of California San Francisco*
Co-Chair: Taylor Krajewski*, Lehigh University*

1:30pm **Myeloid-mesenchymal interactions in the fibrotic niche**, Mallar Bhattacharya, *University of California San Francisco*

2:00pm **Macrophages Regulate Fibroblasts to Coordinate Fibrosis After Cardiac Pressure Overload,** Upendra Chalise*, University of Minnesota*
Iozzo Trainee Award Finalist, Travel Awardee

2:15pm **Single Cell Spatial Profiling of the Matrisome in Malignant Brain Cancer,** Joseph McCarty*, The University of Texas MD Anderson Cancer Center*

2:30pm **Effects of Macrophage Polarization on Aneurysmal Smooth Muscle Cell Behavior in an in vitro Non-Contact Coculture System,** Taylor Krajewski*, Lehigh University*

2:45pm **Integrated Single Cell and Spatial Transcriptomics Analysis Reveals Distinct Senescent Cell Phenotypes that Regulate Fibrosis,** Lexi Rindone*, Johns Hopkins University*
Iozzo Trainee Award Finalist

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

3:30-5:00pm **Plenary II: Next Gen Matrix: imaging and spatial-omics (adv methods)**
Session Sponsored by The Histochemical Society
Location: Holiday 4-5
Chairs: A. Sally Davis Horner*, Davis Consulting, University of Pretoria, and Kansas State University and* Liliana Schaefer, *Goethe-Universität Frankfurt am Main*

3:30pm **Forces and Structures: Mechanical Stress, Matrix Production, and Super Resolution Imaging — A Study on Podocytes,** Nicole Endlich**,** *Universitätsmedizin Greifswald*

4:00pm **Decoding the spatial niches of antigen-presenting cancer-associated fibroblasts**, Huocong Huang, *University of Texas Southwestern*

4:30pm **Fluorescence Lifetime Whole-Tumor mapping Reveals the Impact of Tumor Microenvironment on Antibody Drug–Target Engagement**, Margarida Barroso, *Albany Medical College*, HCS Carpenter Rasch Awardee

5:00-6:30pm **Poster Session I**

6:30-7:30pm **Debate! Artificial Intelligence: opportunities and challenges for the matrix community**
Location: Holiday 4-5

Moderator: Joanne Murphy-Ullrich, *University of Alabama at Birmingham*
Time Keeper: Ambra Pozzi, ASMB President

Please join our panelists for a discussion of how AI can benefit ECM research, biotech, and drug discovery. We will also discuss AI's impact on

publishing, peer review, mentoring, teaching, and the environment.

Panelists include: **Sarah Calve**, *University of Colorado;* **Valerio Izzi**, *University of Oulu, ISMB President;* and **Mathieu Petitjean**, *Phamanest.*

Tuesday, November 18th

7:15-8:30am Pastries & Panels – Three Topics
Start Your Day with Insightful Conversations! Join us for interactive and informal Breakfast Discussion Sessions.

Location: Peale **Importance of Advocacy w/ hands-on training (AIMBE)**
Chair: Jason Marvin, PhD, Director of Outreach and Engagement, AIMBE

Location: Holiday 4-5 **Mentoring Roundtables**
Chairs: Ryan Petrie, Drexel University, and Sergei Budko, Vanderbilt University
Choose your table by topic and enjoy a pastry while you discuss career topics with a mentor and colleagues.

Location: Johnson **Academia or Industry: Where do I go?** *Chair: Upendra Chalise*

8:30am-10:00am Plenary III: ECM Pharmacology: The Matrix as a biomarker
Location: Holiday 4-5
Chair: Morten Karsdal, *Nordic Bio*

8:30am **Biomarkers of extracellular matrix (ECM): Prognostic, diagnostic, predictive and pharmacodynamic tools for enhancing drug development on chronic diseases of lung, liver, heart, kidney, intestine, skin and solid tumors,** Morten Karsdal, *Nordic Bio*

9:10am **Endotrophin and Fibroinflammation – from the Cardiorenal Metabolic Syndrome to Cancer,** Philipp Scherer, *University of Texas Southwestern*

9:40am **A Secret Code of the Extracellular Matrix? Deciphering Matricellular Proteins as Predictive Biomarkers and Therapeutic Targets in Chronic Fibroinflammatory Diseases,** Casimiro Gerarduzzi, *University of Montreal*

10:00-10:30am Break

10:30am-12:00pm Concurrent sessions 13-15

Concurrent 13: Engineering the Matrix: Cell-ECM mechanosensing
Location: Johnson
Chair: Brent Hoffman, *Duke University*
Co-Chair: Michael Blatchley, *Syracuse University*

10:30am **Probing the Effects of Molecular Tension on Protein Function in Cellulo,** Brent Hoffman, *Duke University*

11:00am **Collagen V-dependent wound healing: microscale stiffness effect through traction and adhesion assembly,** Sangyoon Han, *Michigan Technological University*

11:15am **Mapping highly compartmentalized primary fibroblasts reveals mitochondrial dynamics are governed by cell-matrix interactions,** Breanne Hewitt, *Drexel University*

11:30am **Uncovering the role of the extracellular matrix in intestinal organoid symmetry breaking,** Michael Blatchley, *Syracuse University*

11:45am **The Absent in Melanoma 2 (AIM2) inflammasome is required for lamellipodia formation and fibroblast migration,** Ive-Anwuli Ralph-Uyalor, *Drexel University - Philadelphia, PA*

Concurrent 14: Matrix in Medicine: From Genomics to Metabolism
Location: Peale
Chair: Mete Civelek, *University of California, Los Angeles*
Co-Chair: Adriana Mendez*, Icahn School of Medicine at Mount Sinai*

10:30am **Genetic Determinants of Vascular Smooth Muscle Cell Function in Coronary Artery Disease,** Mete Civelek, *University of California, Los Angeles*

11:00am **High molecular weight hyaluronan is a novel therapeutic agent against lung epithelial injury, inflammation and disease,** Stavros Garantziotis*, NIH*

11:15am **Regulation of the Extracellular Matrix by Hyperglycemia May Contribute to Behavioral Dysregulation,** Adriana Mendez*, Icahn School of Medicine at Mount Sinai*

11:30am **Remodeling the Tumor Extracellular Matrix via Hyaluronic Acid Depletion: Implications for Cancer Therapy and Fibrotic Disease,** Alice Browne*, NCI, NIH*

11:45am **Age-related Structural, Biochemical, And Mechanical Changes In The Mouse Intervertebral Discs,** Chitra Dahia*, Hospital for Special Surgery, Weill Cornell Medica*

Concurrent 15: Founders Awardee and Iozzo Trainee Talks
Location: Holiday 4-5
Chair: Jeff Miner, ASMB Past-President and Award Committee Chair

10:30am **Founders Awardee Talk Extracellular Matrix in Development and Diseases,** Neha Dinesh, *McGill University*

10:55am **Iozzo Trainee Award Introduction and Finalists**

11:00am Upendra Chalise*, University of Minnesota*

11:10am Stephen Decker*, University of Utah*

11:20am Lexi Rindone*, Johns Hopkins University*

11:30am Thomas Manzoni*, University of Delaware*

11:40am Melika Osareh, *North Carolina State University & UNC-Chapel Hill*

11:50am Iram Fatima Siddiqui, *McGill University*

12:00-1:30pm **Lunch on your own**

1:30-3:00pm **Concurrent Sessions 16-17**

Concurrent 16: The 'other' Matrix: Computational Methods for High Dimensional Data
Location: Holiday 4-5
Chair: Sylvie Ricard-Blum, *University of Lyon*
Introduction by ISMB and recognition of Distiguished Investigator Award
Co-Chair: Valerio Izzi*, University of Oulu*

1:30pm **ISMB Opening and Distinguished Investigator Introduction**

1:30pm **The First Draft of the Human Extracellular Matrix Interactome: A Matter of Context**, Sylvie Ricard-Blum, *University of Lyon*

2:00pm **The MatriGO Project: Systematic Curation and Refinement of ECM-related Terms in Gene Ontology,** Daiqing Chen*, University of Illinois Chicago*

2:15pm **GENESIS: rapid generation of super-resolution tissue maps from spatial transcriptomics data,** Valerio Izzi, *University of Oulu*

2:30pm **Machine Learning of human gene expression across tissues identifies a Matrix-Lamina axis confirmed by live imaging while perturbing tissue,** Dennis Discher, *University of Pennsylvania*

Concurrent 17: Matrix in Medicine: Marfan, Loeys-Dietz, and Vascular Ehler-Danlos Syndromes *Marfan Foundation Sponsored Session*
Location: Peale

Chair: Lynn Sakai, PhD, *Oregon Health and Science University*
CoChair: Josephine Grima, PhD, *The Marfan Foundation*

1:30pm **A New Mouse Model with a Point Mutation in the Hybrid Domain of Fibrillin-1 Reveals the Contribution of Immune Cells in Development of Aortic Dissection**, Hiromi Yanagisawa, *University of Tsukuba*

2:00pm **Vascular Ehlers-Danlos Syndrome Donor Cell Derived Matrix Elucidates Role of COL3A1 Mutations in ECM Mechanics,** William Polacheck, *University of North Carolina at Chapel Hill*

2:15pm **The Pathogenic ADAMTSL2 D167N Variant Causes Geleophysic Dysplasia-like Tissue Changes in Bone, Heart, Lung and Skin,** Timothy Mead, *Case Western Reserve University / UH Rainbow Babies and Children's Hospital*

2:30pm **Fibrillin-1 regulates extracellular matrix cues and modulates adipose tissue differentiation and metabolism,** Iram Fatima Siddiqui, *McGill University*
Iozzo Trainee Award Finalist, Travel Awardee

2:45pm **Mast Cell Chymase contributes to ECM Remodeling in Thoracic Aortic Aneurysm in Marfan syndrome,** Daniel Martin, *Cleveland Clinic*

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

3:30-5:00pm **Plenary IV: ECM Pharmacology: Targeting and Modeling the Disease Matrix**
Location: Holiday 4-5
Chair: Ambra Pozzi, *Vanderbilt University Medical Center, and ASMB President*

3:30pm **Decoding ECM composition and biology to identify novel therapeutic targets in tissue fibrosis and solid tumors,** Giuseppe Mazza, *Engitix*

4:00pm **Hit the hidden — a novel therapeutic approach in IPF treatment through targeting force sensitive extracellular conformations**, Ping Hu, *Vasarya Therapeutics*

4:30pm **Engineering the ECM to Model the Evolving Ovarian Cancer Microenvironment**, Pam Kreeger, *University of Wisconsin*

5:00-6:30pm **Poster Session II**

7:00pm **ASMB Social – all are welcome to attend – Ticket Required**
Off-site Location: Mustang Alley

Wednesday, November 19th GRAND FINALE

8:00-10:00am **Breakfast and Plenary V: Wound Healing Continuum Anyway You Slice It (Cancer, Fibrosis and Healing)**
Location: Holiday 4-5
Chair: Suneel Apte, *Lerner Research Institute, Cleveland Clinic*

8:00am **ASMB Business Meeting and Award Recognition and *Announcement of Iozzo Trainee Award Winners***

8:30am **Lung Fibroblast Heterogeneity in Health and Disease,** Dean Sheppard, *University of California, San Francisco*

9:00am **Stromal-matrix Networks Dictate Sexually Dimorphic Development of Immune-mediated Inflammatory Diseases (IMIDs),** Kim Midwood, *University of Oxford*

9:30am **Interplay Between Inflammation and Extracellular Matrix Tension Drives Tumor Initiation, Progression and Treatment Response,** Valerie Weaver, *University of California, San Francisco*

10:00-10:15am **Mid-Morning Stretch and Coffee Refill!**

10:15-11:45am **Plenary VI: The 'Other' Matrix: Where AI and Machine Learning Meet the ECM**
Location: Holiday 4-5
Chair: Mathieu Petitjean, *Pharmanest*

10:15am **Decoding the ECM: How AI and Digital Pathology Illuminate Hidden Fibrotic Patterns,** Mathieu Petitjean, *Pharmanest*

10:45am **Decoding Biology: Insights Through the Lens of AI-directed Drug Discovery**, Brandon Probst, *Recursion Pharmaceuticals*

11:15pm **Fibrosis in context: In vivo screening to understand and treat matrix pathobiology,** Martin Borch Jensen, *Gordian Biotechnology*

11:45 ***Closing remarks from the meeting chair***

AMERICAN SOCIETY for MATRIX BIOLOGY

2025 Flash Talk Presentation Order

Poster Number **13: Samantha Muscat**
Physiological Loading via Voluntary Wheel Running (VWR) maintains Tendon Homeostasis by Spatially-Distinct Cellular Processes

Poster Number **16: Jiyoung Moon**
Enhanced Collagen Purity Profiling of Commercial Collagens Using Liquid Chromatography-Mass Spectrometry Based Proteomics

Poster Number **19: George Pantelopulos**
Sequence Dependencies of Collagen Persistence Length Determined via All-atom Molecular Dynamics Simulation

Poster Number **20: Eileen Hwang**
Uneven light scattering in human vitreous correlates with uneven collagen fiber distribution in mouse models

Poster Number **21: Aaron Hamlin**
A Fibronectin-binding Peptide that Enables Real-time Imaging and Biochemical Analysis of Extracellular Matrix

Poster Number **22: John Caputo**
Fibronectin Coating of Tissue Culture Polystyrene Improves Superficial Zone Chondrocyte Expansion

Poster Number **27: Kristy Urquhart**
Remodeling of The Meningeal Extracellular Matrix in Aging

Poster Number **28: Milos Marinkovic**
Investigating the Role of Extracellular CCN1 in the Dysregulation of Hematopoietic Lineage Commitment in the Aging Bone Marrow Niche

Poster Number **31: Mark Arranguez**
Ex Vivo Culture of Mouse Femoral Head Cartilage Reduces F-actin and Dysregulates Chondrocyte Homeostasis

Poster Number **34: Stephanie Richardson-Solorzano**
The Relationship Between Alterations in Cellular Structure and Gene Expression During Chondrocyte Dedifferentiation

Poster Number **42: Andrew Glick**
Tensional Homeostasis in Soft Tissues Arises from a Balance Between Cell Contractility and Extracellular Matrix Densification

Poster Number **44: Alexander Mathewson**
Defining matricellular spatial heterogeneity in the maturing abdominal adhesion

Poster Number **49: Susanna Belt**
Cell contractility drives ECM remodeling of fibrillar collagen and matrix function within developing and mature hearts

Poster Number **50: Francesca Morrell**
Quantitative Analysis of Elastin Disruption and Compensatory Matrix Remodeling in Abdominal Aortic Aneurysms

Poster Number **52: Mayuri Dutta**
Spatial heterogeneity in the omental adipose microenvironment drives invasion in High-grade serous ovarian carcinoma

Poster Number **54: Divya Gupta**
Fibrillin-1 Mutation Affects Adhesome Complex Formation and Extracellular Matrix Signaling in Marfan Syndrome

Poster Number **55: Elena Makareeva**
LC3/GABARAP-independent Autophagy of Misfolded Type I Procollagen in Mouse Osteoblasts

Poster Number **55: Juan Carlos Rodriguez-Manzaneque**
Uncovering the Immunoregulatory Role of NIDOGEN-1 in Tumor Progression and Its Modulation by Proteolysis

ASMB Biennial Meeting Poster Session I

Poster number: 1
Keely **Laurence,** *University of Delaware*
Integrin Expression Identifies Muscle Progenitor Cell Heterogeneities for Skeletal Muscle Tissue Engineering

Poster number: 3
Arun **Asif,** *Albany Medical College, Albany NY*
Iron Dysregulation Drives ECM Remodeling to Promote TNBC Invasion

Poster number: 5
Julieta **Rios-Vergara,** *TEMPLE UNIVERSITY*
Role of Macrophage Adipocyte Communication in Obesity-Driven Inflammation

Poster number: 7
Neha **Dinesh,** *McGill University*
Fibronectin Drives Skeletal Development Through Chondrocyte Differentiation and Matrix Assembly

Poster number: 9
Neha **Dinesh,** *McGill University*
Fibulin-4 and latent-transforming growth factor beta-binding protein-4 interactions with syndecan-2 and -3 are required for elastogenesis

Poster number: 11
Meei-Hua **Lin,** *Washington University in St. Louis*
Mouse Alport Podocytes Are Susceptible to AAV9 Transduction in Vivo

Poster number: 13
Samantha **Muscat,** *University of Rochester*
Physiological Loading via Voluntary Wheel Running (VWR) maintains Tendon Homeostasis by Spatially-Distinct Cellular Processes

Poster number: 15
Matej **Andelic,** *University of Copenhagen*
NEO7: A Novel Blood-Based Biomarker for Organ-Specific Basement Membrane Remodeling in Systemic Sclerosis

ASMB Biennial Meeting Poster Session I

Poster number: 17
Abdulaziz **Alanazi,** *Drexel University*
Type V Collagen Regulates Matrix Integrity and Progenitor Cell Fate in TMJ Condylar Cartilage

Poster number: 19
George **Pantelopulos,** *National Institutes of Health / NIDDK*
Sequence Dependencies of Collagen Persistence Length Determined via All-atom Molecular Dynamics Simulation

Poster number: 21
Aaron **Hamlin,** *Princeton University*
A Fibronectin-binding Peptide that Enables Real-time Imaging and Biochemical Analysis of Extracellular Matrix

Poster number: 23
Dieter **Reinhardt,** *McGill University*
Impact of N-linked glycans on the dual short fibulin/LTBP-4 axes regulating elastogenesis

Poster number: 25
Dieter **Reinhardt,** *McGill University*
Microfibril-associated glycoprotein 4 interacts strongly with fibrillin-1 and forms stable complexes amenable for cryo-electron microscopy analyses

Poster number: 27
Kristy **Urquhart,** *Rush University Medical Center*
Remodeling of The Meningeal Extracellular Matrix in Aging

Poster number: 29
MD AL AMIN **SHEIKH,** *University of Tsukuba*
Synchrotron Imaging and Transcriptomics Analysis Reveal 3D Remodeling and Molecular Pathogenesis of Aortic Dissection in Fbn1^G234D/G234D^ Novel Mutant Mice

Poster number: 31
Mark **Arranguez,** *University of Delaware*
Ex Vivo Culture of Mouse Femoral Head Cartilage Reduces F-actin and Dysregulates Chondrocyte Homeostasis

ASMB Biennial Meeting Poster Session I

Poster number: 33
Mona Elisabeth **Pedersen,** *NOFIMA AS*
Dual Roles of Syndecan-4 in Regulating Fibrosis

Poster number: 35
Mako **Kobayashi,** *Tohoku University*
Blood-Brain Barrier Model Using Extracellular Matrix for Evaluating Nanoplastic Toxicity

Poster number: 37
Byoungha **An,** *Korea Institute of Science and Technology*
Decellularized Extracellular Matrix Derived from Mesenchymal Stem Cells Presents Modulatory Effects on Myofibroblast Activation in a Time-Dependent Manner.

Poster number: 39
Zahra **Mohammadalizadeh,** *University of Florida*
DOE-Guided ECM Optimization Induces Colonic Fibroblast Quiescence In Vitro

Poster number: 41
Dylan **Jesner,** *University of Maryland, College Park*
Mapping Decellularization Process Conditions to Proteomic Profile and Cellular Function: Towards a Tunable Placental dECM Bioink

Poster number: 43
Rylee **King,** *University of Delaware*
Whole Organ Ocular Lens Culture to Investigate the Regulation of Myofibroblast Differentiation by the Actin Cytoskeleton Ex Vivo

Poster number: 45
Leslie I **Gold,** *New York University School of Medicine*
Calreticulin (CALR), an Optimal agent for Tissue Regeneration of Corneal Wounds Acts by Accelerating Wound Closure and Attenuating Fibrosis-Hazing

Poster number: 47
Md **Al Azim,** *New York Medical College*
Epigenetic Therapy Pitfalls: DNMT1 Inhibition Drives ECM Degradation in TNBC

ASMB Biennial Meeting Poster Session I

Poster number: 49
Susanna **Belt,** *University of Pennsylvania*
Cell contractility drives ECM remodeling of fibrillar collagen and matrix function within developing and mature hearts

Poster number: 51
Timothy **Mead,** *Case Western Reserve University / UH Rainbow Babies and Children's Hospital*
ADAMTS6 regulates heart valve development

Poster number: 53
Timothy **Mead,** *Case Western Reserve University / UH Rainbow Babies and Children's Hospital*
Novel Mouse Model for Cardiac Valvular Ehler Danlos Syndrome Demonstrates Enlarged Heart Valves

Poster number: 55
Juan Carlos **Rodriguez-Manzaneque,** *GENYO*
Uncovering the Immunoregulatory Role of NIDOGEN-1 in Tumor Progression and Its Modulation by Proteolysis

Poster number: 57
Aisha **Amari,** *Amsbio, LLC*
PERLECAN-CONJUGATED LAMININ FRAGMENT AS A NEXT-GENERATION CULTURE SUBSTRATE FOR HUMAN PLURIPOTENT STEM CELLS

Poster number: 59
Ayomide **Oshinjo,** *University of Oulu*
MatriSpace: A Spatial Transcriptomics Toolbox to Explore the Extracellular Matrix in Health and Disease

Poster number: 61
Kohei **Omachi,** *RIKEN Center for Biosystems Dynamics Research*
eGFP-Laminin Knock-in Mice for Visualizing Basement Membrane Dynamics

Poster number: 63
Tom **Whalley,** *The University of Manchester*
Mechanosensitive control of LASP1 regulates fibroblast contractility

ASMB Biennial Meeting Poster Session I

Poster number: 65
Scott **Neal,** *SUNY Upstate Medical University*
Transcriptional Control of ECM Factors in the Development and Morphogenesis of the Drosophila Compound Eye.

Poster number: 67
Khanh **Chau,** *Houston Methodist Research Institute*
Collagen I Promotes Bladder Cancer Growth through GCN2-Dependent Integrated Stress Response

Poster number: 69
Sarah **Calve,** *University of Colorado Boulder*
Investigating the role of different ECM components in tendon mechanosensing using multiphoton-based fiber ablation

Poster number: 71
Lakeshia **Taite,** *University of Virginia*
Characterizing the Pancreatic Ductal Adenocarcinoma Microenvironment Using Decellularized Xenograft Tumor Extracellular Matrix

Poster number: 73
Mathew **Kibet,** *University of Virginia*
Cytokine-Induced Thy-1 Loss in Fibroblasts Is Mediated by DNA Methylation

Poster number: 75
Mackenzie **Hawes,** *Tulane University*
Aging-associated extracellular matrix remodeling in healthy primary breast adipose tissue

Poster number: 77
Resul **Ozbilgic,** *Cleveland Clinic*
BRCA2 Haploinsufficiency Drives Early Mechano-regulatory Changes that Promote Breast Cancer Initiation

Poster number: 79
Elena **Makareeva,** *NIH*
LC3/GABARAP-independent Autophagy of Misfolded Type I Procollagen in Mouse Osteoblasts

ASMB Biennial Meeting Poster Session I

Poster number: 81

Iram Fatima **Siddiqui,** *McGill University*

Fibrillin-1 regulates extracellular matrix cues and modulates adipose tissue differentiation and metabolism

ASMB Biennial Meeting Poster Session II

Poster number: 2
Conor **Sugden,** *University of Manchester*
Elucidating the role of hemicentin-1 in the retina.

Poster number: 4
Leanna **Leverton,** *University of Illinois at Chicago*
Deciphering the Mechanisms of SNED1 Fibrillogenesis: A Role for Fibronectin and Collagen I?

Poster number: 6
Dharma Tejeshwar Reddy **Pally,** *University of Illinois at Chicago*
Dissecting the Roles of SNED1-Integrin Interactions and the RGD and LDV Motifs in Cell Adhesion and Fibrillogenesis

Poster number: 8
Daiqing **Chen,** *University of Illinois Chicago*
The MatriGO Project: Systematic Curation and Refinement of ECM-related Terms in Gene Ontology

Poster number: 10
Stephen **Decker,** *University of Utah*
Novel Humanized X-Linked Alport Syndrome Missense Variants Induce ER Stress and Early Glomerular Dysfunction

Poster number: 12
Matilda **Thuringer,** *The University of Manchester*
Investigating components involved in alveolar basement membrane fusion

Poster number: 14
Heather **Connery,** *West Virginia University School of Medicine*
Histamine-3 Receptor Activation Protects Against Cardiac Fibrosis Through Retention of Collagen in Cardiac Fibroblasts

Poster number: 16
Jiyoung **Moon,** *The University of Sydney*
Enhanced Collagen Purity Profiling of Commercial Collagens Using Liquid Chromatography-Mass Spectrometry Based Proteomics

ASMB Biennial Meeting Poster Session II

Poster number: 18
Taihao **Quan,** *Univ. of Michigan*
YAP/TAZ Transcriptional Co-factors Maintain Extracellular Matrix Homeostasis and Control Fibrotic Scar Formation in Mouse Dermal Fibroblasts

Poster number: 20
Eileen **Hwang,** *University of Utah*
Uneven light scattering in human vitreous correlates with uneven collagen fiber distribution in mouse models

Poster number: 22
John **Caputo,** *University of Delaware*
Fibronectin Coating of Tissue Culture Polystyrene Improves Superficial Zone Chondrocyte Expansion

Poster number: 24
Davy **Vanhoutte,** *Cincinnati Children's Hospital Medical Center*
A Human Thrombospondin-4 Gene Variant That Alters Sarcolemmal Stability And Predisposes To Dilated Cardiomyopathy

Poster number: 26
Tomonori **Ueno,** *Nippi, Incorporated*
Production of Full-Length Recombinant Laminins with spERt Technology

Poster number: 28
Milos **Marinkovic,** *Indiana University School of Medicine*
Investigating the Role of Extracellular CCN1 in the Dysregulation of Hematopoietic Lineage Commitment in the Aging Bone Marrow Niche

Poster number: 30
Themis **Kyriakides,** *Yale University*
Thrombospondin-2 deficient dermal fibroblasts display a pro-regenerative phenotype and contribute to matrix remodeling.

Poster number: 32
Tanyalak **Parimon,** *Cedars-Sinai Medical Center*
Macrophage Stromelysin-2 (MMP10) Moderates Lung Fibrosis

ASMB Biennial Meeting Poster Session II

Poster number: 34
Stephanie **Richardson-Solorzano,** *University of Delaware*
The Relationship Between Alterations in Cellular Structure and Gene Expression During Chondrocyte Dedifferentiation

Poster number: 36
Jae Won **Kwon,** *Korea Institute of Science and Technology (KIST)*
Mesenchymal Stem Cell-derived Extracellular Matrix Sponge Enables Scar-free Regeneration in Deep Burn Wounds

Poster number: 38
Jessica **Faragher,** *University of South Dakota Sanford School of Medicine*
Extracellular Matrix Dysregulation Induced By Platinum Chemotherapy Contributes to Treatment-Resistant Ovarian Cancer

Poster number: 40
Jeremy **Ortmann,** *University of Virginia*
Stromal and Immune Subpopulations Differentiate Between Regenerative and Fibrotic Responses to Biomaterials

Poster number: 42
Andrew **Glick,** *University of Texas at Dallas*
Tensional Homeostasis in Soft Tissues Arises from a Balance Between Cell Contractility and Extracellular Matrix Densification

Poster number: 44
Alexander **Mathewson,** *University of Rochester*
Defining matricellular spatial heterogeneity in the maturing abdominal adhesion

Poster number: 46
Ko **Tsutsui,** *Manchester University*
Injured Kidney Glomeruli are Fibrotic Hotspots in Alport Syndrome

Poster number: 48
Amanpreet Kaur **Bains,** *University of Illinois at Chicago*
An Integrated Framework for Characterizing the Extracellular Matrix Protein Interactions

ASMB Biennial Meeting Poster Session II

Poster number: 50
Francesca **Morrell,** *Lehigh University*
Quantitative Analysis of Elastin Disruption and Compensatory Matrix Remodeling in Abdominal Aortic Aneurysms

Poster number: 52
Mayuri **Dutta,** *University of Wisconsin-Madison*
Spatial heterogeneity in the omental adipose microenvironment drives invasion in High-grade serous ovarian carcinoma

Poster number: 54
Divya **Gupta,** *Cedars-Sinai Medical Center*
Fibrillin-1 Mutation Affects Adhesome Complex Formation and Extracellular Matrix Signaling in Marfan Syndrome

Poster number: 56
Shanmathi **Ramasubramanian,** *University of Georgia*
Multi-Omics Analysis of Matrisome Alterations in Glioblastoma

Poster number: 58
Kyle **McGuire,** *Optics11 Life*
Mechanial Cues as functional markers for 3D in vitro models

Poster number: 60
yiyue **jia,** *university of Texas southwestern medical center*
Mechano-Immune Regulation of LRRC15+ Cancer-associated Fibroblasts

Poster number: 62
AurÃ©lie **Moniot,** *Apmonia Therapeutics*
Targeting the Matricellular TSP-1/CD47 Axis with TAX2: a First-in-Class Peptide for Cancer Therapy

Poster number: 64
Morten **Karsdal,** *Nordic BioScience*
BIGH3 is a Mediator of TGFβ-Induced Collagen Formation in Fibrosis and Pancreatic Cancer and a Potential Therapeutic Target

ASMB Biennial Meeting Poster Session II

Poster number: 66
Marvin **Mendoza,** *University of Miami*
Active Mechanosensing In Lymph Node Fibroblastic Reticular Cells As A Therapeutic Lever To Restore Immune Tolerance In Autoimmune Diabetes

Poster number: 68
Alanis **Hernandez-Arce,** *SUNY Upstate Medical University*
Î²2 Laminins in Optic Chiasm Development and Retinal Ganglion Cell Axon Routing

Poster number: 70
Apoorva **Bhandari,** *Oregon Health & Science University*
Quantitative EM Analysis of Dermal Collagen and Elastic Fibers Using Custom Fiji Macros: Distinct Extracellular Matrix Architecture Revealed in Vascular Ehlers-Danlos Syndrome

Poster number: 72
Apoorva **Bhandari,** *Oregon Health & Science University*
Automated Semi-manual Quantification of Collagen and Elastic Fiber Ultrastructure in EM Using Custom Fiji Macros: A Proof of Concept

Poster number: 74
Gabriela **Ros,** *University of Virginia*
Investigating an Ex Vivo Lung Model Using Precision Cut Lung Slices Embedded in Hydrogel to Prolong Tissue Viability

Poster number: 76
Aude **Angelini,** *Houston Methodist Research Institute HMRI*
Sex-specific Differences in Cellular Response to Matrix Stiffness and Composition.

Poster number: 78
Malik **Hickman,** *University of Virginia*
Designing a Focused Ultrasound Crosslinkable Scaffold for Tissue Regeneration and Chemotherapeutic Drug Delivery

Poster number: 80
Bong Hwan **Sung,** *Vanderbilt University*
Exosomes Are Specialized Vehicles To Induce Fibronectin Assembly

Poster number: 82
Ayush **Nigam**, *Indian Institute of Technology, Mandi*
Mapping the Collagen Landscape: Tissue-Specific Chain Expression and Modifications in Mice

Agenda at a Glance

Sunday, November 16th

7:30am Fun Run/Walk
Location: Meet in the hotel lobby, West Pratt Street Entrance

9:00am - 10:30am
Special Interest Session: Enhancing Visibility and Engagement in Extracellular Matrix Research: A Dialogue with Journal Editors
Location: Peale

10:30am - 12:00pm Guest Symposia 1 & 2, Poster Flash Talks
Guest Symposium 1: Society for Biomaterials Biomaterials and the Matrix: Society for Biomaterials Guest Symposia
Location: Peale

Guest Symposium 2: Choroideremia Research Foundation
Location: Johnson

Poster Flash Talks
Location: Holiday 4-5

1:30-3:00pm Concurrent Sessions 1-3
Concurrent 1: Collagens
Location: Holiday 4-5

Concurrent 2: The Provisional Matrix: Fibrin, Fibronectin and Fibulins
Location: Peale

Concurrent 3: PTMs and the Glyco-Matrix
Location: Johnson

3:00-3:30pm Break

3:30-5:00pm Concurrent Sessions 4-6
Concurrent 4: Matricellular Proteins
Location: Holiday 4-5

Concurrent 5: Matrix crosslinking and remodeling
Location: Peale

Concurrent 6: Matrix receptors and signaling
Location: Johnson

5:00 - 5:15 Break

5:15-6:30pm President's Welcome & Award Talks
Location: Holiday 4-5

6:40-7:45pm Keynote Lecture
Location: Holiday 4-5

7:45-9:00pm Welcome Reception

Monday, November 17th

7:15-8:30am Pastries & Panels – Three Topics

Matrix Resources: What Tools Are Out There?
Location: Holiday 4-5

Taking the Next Step, Negotiating, Setting Up a Lab
Location: Peale

From Invention to Impact: IP, Entrepreneurship, and Startups in Academic Research
Location: Johnson

8:30-10:00am Plenary I: Basement Membranes
Location: Holiday 4-5

10:00-10:30am Break

10:30am-12:00pm Concurrent sessions 7-9
Concurrent 7: Engineering the Matrix: biomaterials and tissue engineering
Location: Holiday 4-5

Concurrent 8: Wound Healing Continuum anyway you slice it (cancer, fibrosis and healing)
Location: Peale

Concurrent 9: Matrix in Medicine: Women's Health
Location: Johnson

12:00-1:30pm Lunch on your own

12:15-1:15pm HCS Business Meeting and Award Recognition
Location: Holiday 4-5

1:30-3:00pm Concurrent Sessions 10-12

Concurrent 10: Next Gen Matrix: advances in proteomics
Location: Holiday 4-5

Concurrent 11: Engineering the Matrix: exploring tissue and ECM mechanics
Location: Peale

Concurrent 12: Multi-cellular contributions to the ECM
Location: Johnson

3:00-3:30pm Break

3:30-5:00pm Plenary II: Next Gen Matrix: imaging and spatial-omics (adv methods)
Location: Holiday 4-5

5:00-6:30pm Poster Session I
Location: Holiday 6

6:30-7:30pm Debate! Artificial Intelligence: opportunities and challenges for the matrix community
Location: Holiday 4-5

Tuesday, November 18th

7:15-8:30am Pastries & Panels – Three Topics

Importance of Advocacy w/ Hands-on Training
Location: Peale

Mentoring Roundtables
Location: Holiday 4-5

Academia or Industry: Where do I go?
Location: Johnson

8:30am-10:00am Plenary III: ECM Pharmacology: The Matrix as a biomarker
Location: Holiday 4-5

10:00-10:30am Break

10:30am-12:00pm Concurrent sessions 13-15
Concurrent 13: Engineering the Matrix: Cell-ECM mechanosensing
Location: Johnson

Concurrent 14: Matrix in Medicine: From Genomics to Metabolism
Location: Peale

Concurrent 15: Founders Awardee and Iozzo Trainee Talks
Location: Holiday 4-5

12:00-1:30pm Lunch on your own

1:30-3:00pm Concurrent Sessions 16-17
Concurrent 16: The 'other' Matrix: Computational Methods for High Dimensional Data
Location: Holiday 4-5

Concurrent 17: Matrix in Medicine: Marfan, Loeys-Dietz, and Vascular Ehler-Danlos Syndromes Marfan Foundation Sponsored Session
Location: Peale

3:00-3:30pm Break

3:30-5:00pm Plenary IV: ECM Pharmacology: Targeting and Modeling the Disease Matrix
Location: Holiday 4-5

5:00-6:30pm Poster Session II
Location: Holiday 6

7:00pm ASMB Social – all are welcome to attend – Ticket Required
Off-site Location: Mustang Alley

Wednesday, November 19th GRAND FINALE

8:00-10:00am Breakfast and Plenary V:
Wound Healing Continuum Anyway You Slice It (Cancer, Fibrosis and Healing)
Location: Holiday 4-5

10:00-10:15am Mid-Morning Stretch and Coffee Refill!

10:15-11:45am Plenary VI: The 'Other' Matrix: Where AI and Machine Learning Meet the ECM
Location: Holiday 4-5