



ASMB 2016

American Society *for* Matrix Biology Biennial Meeting

November 13-16, 2016 • Hilton St. Petersburg Bayfront • St. Petersburg, FL

THE ECM MICROENVIRONMENT: A REGULATORY FORCE IN AGING AND DISEASE

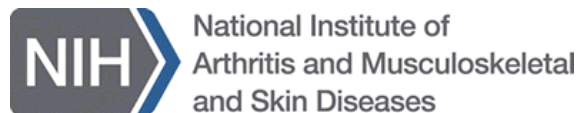
PROGRAM BOOK



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WELCOME!

Dear Fellow ASMB Members and Attendees:

Thank you for attending this biennial conference of the American Society for Matrix Biology, the 7th since the Society's founding. The focus of the 2016 Conference is from the role of extracellular matrix in cellular processes and diseases related to aging, an emerging area of importance. The program before you is the result of thoughtful planning by our incoming President, Joanne Murphy-Ullrich and the Program Committee, who I thank for their time and effort. The conference is preceded by a pre-program that includes guest symposia sponsored by the Tissue Engineering Regenerative Medicine International Society-Americas (TERMIS) and the CCN Society. The four Special Interest Sessions are organized by trainees, part of our continuing effort to involve early-stage scientists in program planning. As per ASMB tradition, the program committee has selected a large number of presentations in the concurrent sessions from abstracts submitted by scientists-in training.

The ASMB Conference is also an opportunity to engage scientists from outside the traditional matrix domain, as evidenced by our Keynote speaker, Dr. Judith Campisi, a leader in aging research, and by the titles of a number of the plenary talks. A major strength of the meeting is the opportunity to learn about areas that lie on the fringes of your own interests, so I hope you enjoy wandering out of your comfort zone into sessions that are unrelated to your work. We are pleased that posters will be displayed throughout the conference because they provide an excellent forum for interactions. On Monday morning we have a Career Development breakfast and on Tuesday morning, a Women mentoring Women breakfast. ASMB offers travel awards, including some specifically to minority trainees, and we are fortunate to have support for attending international trainees from the International Society for Matrix Biology (ISMB).

We congratulate the awardees whose outstanding work is being recognized at this conference by our biennial awards: Vincent Tagliabracchi (ASMB Junior Investigator Award), Tom Barker (Iozzo Award), and Renato Iozzo (ASMB Senior Investigator Award). The ISMB will present its Distinguished Investigator Award to Karl Tryggvason. ISMB and ASMB are jointly hosting a presentation by Jean Schwarzbauer as a tribute to the late Ruth Chiquet-Ehrismann.

We appreciate the generosity of our sponsors, notably, the National Institute of Aging at NIH and also the long-time support of National Institute of Arthritis and Musculoskeletal and Skin Diseases; two institutions based here in Tampa, the Shriners Hospitals for Children and the University of South Florida, as well as the Company of Biologists, Matrix Biology/Elsevier, the Vanderbilt Center for Matrix Biology, and ISMB. They, together with other sponsors, are recognized throughout the conference. Their support goes a long way toward enhancing education, mentoring, and collaborations in matrix sciences. Special thanks are due to David Birk for his efforts in fundraising and local organization on behalf of ASMB.

While here, please learn more about our newest initiative, the ASMB Workshops, which will be held in odd years on specialized topics proposed by the membership. Roy Zent and Jeff Miner will organize the inaugural ASMB Workshop on the topic of Basement Membranes at Vanderbilt University from July 12-14, 2017. Please plan on attending and making it a resounding success.

We hope you will continue and extend your involvement with ASMB by attending future conferences, sustaining your membership, and getting more involved with the society, whether it be on ASMB council, organizing a session, being a mentor to young scientists, or contributing to our quarterly newsletter. We hope you enjoy the banquet at the Salvador Dali Museum and take advantage of the docent-led tour through the galleries, the wishing tree, and Salsa dancing. It promises to be fun- perhaps even surreal.

The ASMB would like to thank our Executive Director, Kendra LaDuca, who continues to guide the society with exceptional competence, and who has had a hand in making every aspect of this meeting a success. If you are enjoying the conference, please let her know!

Welcome, we wish you a safe journey here and back, and enjoy the program!

Suneel Apte, MBBS, DPhil
President

Planning Team Acknowledgement

Thank you to the program planning committee, abstract reviewers, mentoring breakfast committees, Special Interest Session and Guest Society Session leaders, and all who helped to make this event a success.

Suneel Apte	Beate Eckes	Merry Lindsey	Ralph Sanderson
Kayla Bayless	Adam Engler	Timothy Mead	Lilliana Schaefer
Dwayne Stupack	Sean Gill	Kim Midwood	Michelle Tallquist
Caroline Alexander	Silvia Goldoni	Joanne Murphy-Ullrich	Richard Tucker
Thomas Barker	Billy Hudson	Alexandra Naba	Alissa Weaver
David Birk	Paul Janmey	Enid Neptune	Justin Weinbaum
Amy Bradshaw	Mari Kaartinen	Chris Overall	Hiromi Yanagisawa
Peter Bruckner	Patricia Keely	Karen Posey	Marian Young
Shukti Chakravarti	Beth Kozel	Ambra Pozzi	Peter Yurchenco
Jeff Davidson	Richard LeBaron	Dieter Reinhardt	Roy Zent
Elaine Davis	Rachel Lennon	Lynn Sakai	

Special Interest Session Leaders

F. Javier Rodriguez-Baena, Heena Kumra,
Sumeda Nandadasa, Kurt Zimmerman

Guest Symposia Organizers

Ashley C. Brown, TERMIS
Andrew Leask, CCN



The poster features the ASMB logo on the left, which includes a stylized figure. Below the logo is the text "VANDERBILT UNIVERSITY MEDICAL CENTER". To the right of the logo, the main title "ASMB Workshop 2017 on Basement Membranes" is displayed in a large, bold font. Below the title, the dates and location "July 12-14, 2017 • Nashville, TN USA" are listed. At the bottom of the text area, the co-chairs "CO-CHAIRS: ROY ZENT AND JEFFREY MINER" are mentioned. The bottom half of the poster is dominated by a grayscale electron micrograph of a basement membrane, showing its characteristic wavy, porous structure. At the very bottom, the phrase "SAVE THE DATE!" is written in large, bold, white capital letters against a black background.

ASMB

VANDERBILT UNIVERSITY
MEDICAL CENTER

**ASMB Workshop 2017
on Basement Membranes**

July 12-14, 2017 • Nashville, TN USA

CO-CHAIRS: ROY ZENT AND JEFFREY MINER

SAVE THE DATE!

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GLYCOBIOLOGY

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Karen Posey, University of Texas Medical School

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Michelle Tallquist, University of Hawaii

Hiromi Yanagisawa, University of Tsukuba

Editor, The Matrix Letter

Dwayne Stupack, University of California, San Diego

Thank You to Outgoing ASMB Council Members

2015

Kayla Bayless, Pyong Woo Park, and Dwayne Stupack

2016

Caroline Alexander, Peter Bruckner, Billy Hudson, Dieter Reinhardt, and Hiromi Yanagisawa

Invited Speakers and Chairs

Caroline Alexander, University of Wisconsin

Kristi Anseth, University of Colorado Boulder

Thomas Barker, University of Virginia

Francisco Javier Rodríguez-Baena, GENYO

David Birk, University of South Florida

Ashley C. Brown, North Carolina State and UNC – Chapel Hill

Kevin Campbell, University of Iowa

Judith Campisi, Buck Institute for Research on Aging

John Couchman, University of Copenhagen

Beate Eckes, University of Cologne

Jennifer Elisseeff, Johns Hopkins University

Adam Engler, University of California, San Diego

Reinhard Faessler, Max Planck Institute

Gary Fisher, University of Michigan

Ben Humphreys, Washington University

Renato Iozzo, Sidney Kimmel Medical College at Thomas Jefferson University

Paul Janmey, University of Pennsylvania

Heena Kumra, McGill University

Andrew Leaske, University of Western Ontario

Brendan Lee, Baylor College of Medicine

Rachel Lennon, University of Manchester

Merry Lindsey, University of Mississippi Medical Center

Qing-Jun Meng, The University of Manchester

Kim Midwood, University of Oxford

Alexandra Naba, University of Illinois at Chicago

Sumeda Nandadasa, Cleveland Clinic Foundation

Christopher Overall, University of British Columbia

Ambra Pozzi, Vanderbilt Medical Center

Francesco Ramirez, Mount Sinai School of Medicine

Francisco Javier Rodríguez-Baena, GENYO

Lynn Sakai, Shriners Hospitals for Children

Ralph Sanderson, University of Alabama at Birmingham

Liliana Schaefer, Klinikum der Goethe Universität

Philipp Scherer, University of Texas Southwestern Medical Center

Jean Schwarzbauer, Princeton University

Dwayne Stupack, University of California San Diego

Vincent Tagliabracci, University of Texas, Southwestern, Medical Center

Michelle Tallquist, University of Hawaii

Victor Thannickal, University of Alabama at Birmingham

Karl Tryggvason, Karolinska Institute/Duke University-National University of Singapore

Richard Tucker, University of California, Davis

Shuxia Wang, University of Kentucky

Alissa Weaver, Vanderbilt University

Malcolm Whitman, Harvard University

Hiromi Yanagisawa, University of Tsukuba

Marian Young, NIDCR, NIH

Kurt Zimmerman, University of Alabama at Birmingham

ASMB Award Winners



Junior Investigator

Vincent Tagliabracci, University of Texas, Southwestern, Medical Center



Iozzo Award

Thomas Barker, University of Virginia



Senior Investigator

Renato Iozzo, Sidney Kimmel Medical College at Thomas Jefferson University



ISMB Distinguished Investigator

Karl Tryggvason, Karolinska Institute/
Duke University-National University of Singapore

ASMB Travel

Timothy Mead, Cleveland Clinic

Vivian Lee, Washington University School of Medicine

Ryan Hill, University of Colorado, Denver

Greg Harris, Princeton University

Charlotte Gistelinct, Ghent University

ASMB Minority Travel

Steven Shen, University of British Columbia

M. Eugenia Vega, Princeton University

Ritesh Kumar, Texas A&M University

ISMB International Travel Awards

Francisco Javier Rodriguez-Baena, (Spain) Genyo

Sanne D'hondt, (Belgium) Ghent University

Heena Kumra, (Canada) McGill University

Nan Yang, (UK) University of Manchester

David Pulido-Gomez, (UK) Imperial College London

Exhibitor List

Advanced BioMatrix, Inc

5930 Sea Lion Place, Suite 100

Carlsbad, CA 92010

800-883-8220

www.advancedbiomatrix.com

Onsite Representatives:

David Bagley and Bowman Bagley

Email: support@advancedbiomatrix.com

Table 1

AMSBIO

1035 Cambridge Street, Suite 21D

Cambridge, MA 02141

617-945-5033

www.amsbio.com

Onsite Representative: Kayla McDonald

Email: kaylamcd@amsbio.com

Table 2

Elsevier

Radarweg 29

1043 NX

Amsterdam

The Netherlands

+31 20 485 2648

www.elsevier.com

Onsite Representative: Valerie Teng-Broug

Email: v.teng-broug@elsevier.com

Table 3

International Society for Matrix Biology

www.ismb.org

President: Francesco Ramirez

francesco.ramirez@mssm.edu

Table 4

StemBioSys, Inc.

3463 Magic Drive, Suite 110

San Antonio, TX 78229

210-877-9323

www.stembiosys.com

Onsite Representative: Sy Griffey

Email: Sy.griffey@stembiosys.com

Table 5

University of South Florida

Molecular Pharmacology & Physiology

Morsani College of Medicine

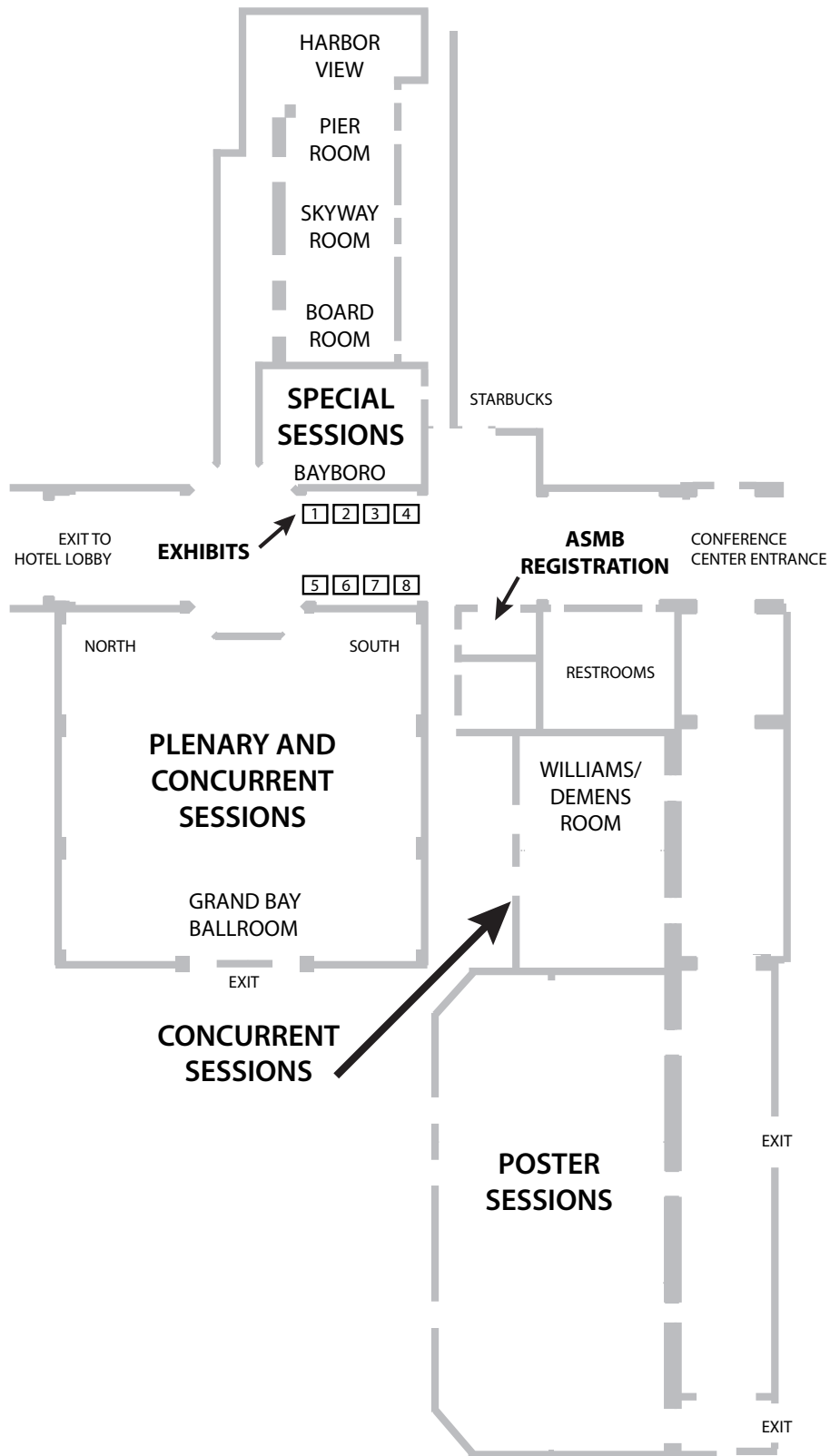
University of South Florida

health.usf.edu/medicine/mpp

Onsite Representative: TBA

Table 6

Meeting Floor Plan



General Information

Registration Hours

The meeting registration desk is located in the Grand Bay Lobby of the Hilton St. Petersburg Bayfront. Name badges and conference materials can be picked up at the Grand Bay Registration Desk. The desk will be staffed during the following hours.

Sunday, November 13th 12:00 PM – 6:00 PM

Monday, November 14th 7:30 AM – 5:30 PM

Tuesday, November 15th 7:30 AM – 5:30 PM

Wednesday, November 16th 8:00 AM – 12:00 PM

Registration

Registration fees include the Opening Reception on Sunday night, refreshment breaks, continental breakfast Monday, Tuesday, and Wednesday, Poster Session I/II lunches, scientific sessions, and one program book. Registration fees exclude hotel costs. On-site registration will be accepted with payment via checks and credit cards. Banquet tickets must be purchased separately and in advance and are not included in the registration fee.

Catering

Included in registration fees are the following catered events:

- Sunday night reception (hot and cold hors d'oeuvres, lite fare, desserts, and cash bar)
- Monday, Tuesday, and Wednesday Breakfast (classic continental fare, coffee/tea)
- Monday and Tuesday Poster Session Boxed Lunch (Various sandwich combinations, chips or side, cookie, fruit and a drink)
- AM and PM coffee breaks

Internet Access

Internet access is complimentary in the guest rooms for those staying onsite at the Hilton St. Petersburg Bayfront within the meeting block. Complimentary access is also provided in the meeting space, public and common areas. Username and password for meeting area WiFi access are: **ASMB2016**.

Speaker Ready Room

Presenters are asked to load their talks at least 2 hours prior to their sessions by visiting the speaker ready room (Baywalk). If you require any assistance, please contact one of the AV Technicians. Please arrive in the session room at least 15 minutes prior to your start time.

Open hours:

Sunday, November 13th 12:00 PM – 6:00 PM

Monday, November 14th 7:30 AM – 5:30 PM

Tuesday, November 15th 7:30 AM – 5:30 PM

Wednesday, November 16th 8:00 AM – 12:00 PM

Airport and Transportation

The Tampa International Airport (TPA) is approximately 22 miles from the hotel. It is easily accessible by shuttle or by taxicab. The hotel is located in St. Petersburg at 333 1st St S., Saint Petersburg, Florida, 33701-4342, USA. More information on transportation options can be found on the hotel website and the ASMB meeting website.

Parking

The hotel offers self-parking on-site for a fee. ASMB has negotiated a special parking rate of \$12.00 with unlimited in and out privileges. See the hotel front desk for parking validation.

General Information

Poster Set-up/Poster Sessions

Poster boards will be set-up in the St. Petersburg Ballroom. All posters will be on display throughout the entire conference but will be presented in two separate sessions. Odd number board numbers will formally present on Monday, November 14th from 12:30 – 2:30PM, while even numbers boards will formally present on Tuesday, November 15th from 12:00 – 2:00PM. Set-up and breakdown for ALL poster boards is as follows:

- Set-up posters starting Monday, November 14th at 7:30 AM
- Remove posters by Wednesday, November 16th at 2:00PM

Poster Session I:

Monday, November 14th12:30 – 2:30 PM

Poster Session II:

Tuesday, November 15th..... 12:00 – 2:00 PM

The organizers are not responsible for any materials posted. Velcro dots will be provided for poster presenters.

Exhibits

Please take time to visit the exhibit displays in the Lobby II area during the breaks and poster sessions. See the exhibitor listing for detailed information regarding our sponsoring companies.

Exhibits Schedule:

Sunday, November 13th 12:00 AM – 6:00 PM

Monday, November 14th 7:30 AM – 5:30 PM

Tuesday, November 15th..... 7:30 AM – 5:30 PM

Wednesday, November 16th8:00 AM – 1:00 PM

Accompanying Persons

Guests are welcome to enjoy the city during the conference hours. There are many sites and attractions within walking distance. Visit the St. Pete Clearwater website www.visitstpeteclearwater.com, or stop by the hotel concierge for information.

Business Meeting

All ASMB members are encouraged and invited to attend the Member Business Meeting on Monday, November 14th from 12:00 – 12:30 PM. The advice and guidance of the membership on current society issues is welcome in these “open forum” meetings. If you are not currently a member, applications are available at the Registration Desk.

Special Needs

Registrants with special needs are invited to contact the Registration Desk or hotel concierge for assistance.

Liability

Neither the host venue nor the organizers can be held responsible for any personal injury, loss, damage to private property or additional expense incurred as a result of delays or changes in air, rail, sea, road or other services. All participants are encouraged to make their own arrangements for health and travel insurance.

ASMB Policy on Photography and Audio/Video Recording at ASMB Conferences

During ASMB meetings, attendees and guests are prohibited from visual or audio recording of scientific presentations. Poster materials may only be photographed with the express permission of the author(s).

Scientific Program

Sunday, November 13th

8:00am-12:00pm

ASMB Council Meeting

By invitation only

Location: Skyway/Pier

12:00-6:00pm

Registration

Location: Grand Bay Registration Desk

12:00-6:00pm

Exhibits

Location: Lobby II

1:00-2:30pm

Guest Symposium I: Tissue Engineering Regenerative Medicine International Society-Americas (TERMIS-AM)

Location: Grand Bay North

Organizer: Ashley C. Brown, North Carolina State and UNC – Chapel Hill

1:00pm **Dynamic alteration of the wound microenvironment with fibrin-binding particles**, Ashley C. Brown, North Carolina State University and UNC-Chapel Hill

1:20pm **ECM-based Scaffolds for Neural Regeneration**, Christine Schmidt, University of Florida

1:40pm **Modular ECM-based Microtissues for Orthopaedic and Vascular Repair**, Jan Stegemann, University of Michigan

2:00pm **Mesenchymal Stem Cells Drive Elastogenesis Within a 3D Fibrin Gel Model**, Justin Weinbaum, University of Pittsburgh *Abstract/Poster: B001*

2:15pm **Neuroprotective Chondroitin Sulfate Glycosaminoglycan Hydrogels Facilitate Functional Recovery Chronically Post-Traumatic Brain Injury**, Lohitash Karumbaiah, The University of Georgia *Abstract/Poster: B002*

1:00-2:30pm

SIS 1: Trainee Led Session: Extracellular Matrix Dynamics in Development and Disease

Location: Grand Bay South

Organizer: Sumeda Nandadasa, Cleveland Clinic Lerner Research Institute

1:00pm **Palate Development and Fusion are Regulated by Cell-Cell and Cell-ECM Signals**, Kathy Svoboda, Texas A&M University Baylor College of Dentistry

1:30pm **ADAMTS9-mediated ECM remodeling is a necessary regulator of Hedgehog signaling during neural tube morphogenesis**, Sumeda Nandadasa, Cleveland Clinic Lerner Research Institute *Abstract/Poster: B003*

1:50pm **Conditional Targeting Of Shh In The Adult Mouse Nucleus Pulposus Causes Premature Intervertebral Disc**, Chitra Dahia, Hospital for Special Surgery *Abstract/Poster: B104*

2:10pm **Spatial and temporal dissection of pathogenesis in a mouse model of ocular dysgenesis caused by a Col4a1 mutation**, Mao Mao, University of California, San Francisco *Abstract/Poster: B005*

1:00-2:30 pm

SIS 2: Trainee Led Session: Cilia, Inflammation, and Fibrosis in the Kidney and Liver

Organizer: Kurt Zimmerman, University of Alabama at Birmingham

Location: Williams/Demens

1:00pm **Primary cilia regulate Kupffer cell/resident macrophage activation, monocyte recruitment, and hepatic fibrosis in a mouse model of PKD**, Kurt Zimmerman, University of Alabama at Birmingham *Abstract/Poster: B006*

1:20pm **Evidence for a pathogenic triumvirate in congenital hepatic fibrosis in autosomal recessive polycystic kidney disease**, Lu Jiang, University of Kansas Medical Center *Abstract/Poster: B007*

1:40pm **Fibronectin signaling modulates cyst progression in models of autosomal dominant polycystic kidney disease (ADPKD)**, Ming Ma, Yale University *Abstract/Poster: B008*

2:00pm **LOXL2 is Upregulated in Diabetic Nephropathy by Smad3-dependent TGF- β 1 Signaling**, Roberto Vanacore, Vanderbilt University *Abstract/Poster: B009*

2:30-2:45pm

Break

Location: Lobby II & III

Scientific Program

2:45-4:15pm

Guest Symposium II: CCN Society

Location: Grand Bay North

Organizer and Introduction: Andrew Leask,
University of Western Ontario

- 3:00pm **Elevated CCN1 in aged human skin functions as an important driving force for human skin connective tissue aging**, Taihao Quan, University of Michigan Health System *Abstract/Poster: B010*
- 3:15pm **The role of CCN2 in melanoma metastasis**, James Hutchenreuther, University of Western Ontario *Abstract/Poster: B142*
- 3:30pm **WISP1/CCN4 and musculoskeletal function**, Marian Young, National Institutes of Health *Abstract/Poster: B011*
- 3:45pm **Mutant COMP adversely impacts intramembranous and endochondral bone formation**, Karen Posey, McGovern Medical School at The University of Texas Health Science Center at Houston *Abstract/Poster: B012*
- 4:00pm **Discussion**

2:45-4:15pm

SIS 3: Trainee Led Session: ECM in Vascular Development

Location: Grand Bay South

Organizer: Heena Kumra, McGill University

- 2:45pm **Extracellular matrix and vascular integrity**, Robert Mecham, Washington University, St. Louis
- 3:15pm **Pleiotropic and cell type-specific functions of fibronectin in blood vessel development**, Sophie Astrof, Thomas Jefferson University *Abstract/Poster: B141*
- 3:45pm **Importance of cellular and plasma fibronectin in maintaining vessel wall integrity and function**, Heena Kumra, McGill University *Abstract/Poster: B013*
- 4:00pm **Fibulin-4 is important for maintaining vascular wall integrity in large but not small vessels**, Carmen Halabi, Washington University School of Medicine *Abstract/Poster: B014*

2:45-4:15pm

SIS 4: Trainee Led Session: Unveiling the Mechanisms of Novel ECM-Modifying Proteases: Focus on Substrates

Organizer: Francisco Javier Rodríguez-Baena, GENYO

Location: Williams/Demens

- 2:45pm **Study of the extracellular protease ADAMTS1 and its substrates in the vasculature: relevance for tumor progression and neo-vascularization**, Francisco Javier Rodríguez-Baena, GENYO *Abstract/Poster: B015*

- 3:05pm **Identification of new substrates of ADAMTS2, 3 and 14 and evaluation of the functional consequences of their cleavage**, Alain Colige, University of Liège *Abstract/Poster: B016*

- 3:25pm **The effects of Granzyme B-mediated ECM cleavage on stem cell function in decellularized human dermis**, Valerio Russo, University of British Columbia *Abstract/Poster: B017*

- 3:45pm **Distinct biological events generated by ECM proteolysis by two homologous collagenases**, Inna Solomonov, Weizmann Institute of Science *Abstract/Poster: B143*

4:15-4:30pm

Break

Location: Lobby II & III

4:30-6:00pm

President's Welcome & Award Talks

Location: Grand Bay Ballroom

Chair: Suneel Apte, ASMB President

- 4:30pm *Junior Investigator Awardee*
Phosphorylation of Secreted Proteins by a New Family of Kinases, Vincent Tagliabracci, University of Texas Southwestern Medical Center
- 5:00pm *Iozzo Award Winner*
Cell-matrix Mechanotransduction in Tissue Fibrosis, Thomas Barker, University of Virginia
- 5:30pm *Senior Investigator Awardee*
Novel Proteoglycan Functions in Regulating Autophagy, Renato Iozzo, Sidney Kimmel Medical College at Thomas Jefferson University

6:00-7:15pm

Opening Reception

Location: Lobby II & III

7:15-8:00pm

Keynote Lecture

Chair: Joanne Murphy-Ullrich, ASMB President Elect

Location: Grand Bay Ballroom

Cellular Senescence: Signaling from Within and Without, Judith Campisi, Buck Institute for Research on Aging

Scientific Program

Monday, November 14th

7:15-8:30am

Career Mentoring Breakfast

(Pre-registration Required) Discussion begins at 7:30am.

Location: Bayboro

7:30 am-5:30pm

Registration

Location: Grand Bay Registration Desk

7:30 am-5:30pm

Exhibits

Location: Lobby II

7:30-8:30am

Breakfast

Location: Lobby II & III

8:30-10:00am

Plenary I: Linking Metabolic Disease with the ECM Microenvironment

Location: Grand Bay Ballroom

Chair: Hiromi Yanagisawa, University of Tsukuba

8:30am **The ECM of Adipose Tissue: Central Player for Metabolism and Cancer**, Philipp Scherer, University of Texas Southwestern Medical Center

9:00am **Sdc1-dependent dermal white adipose tissue is required for proper mammalian insulation**, Caroline Alexander, University of Wisconsin

9:30am **Thrombospondin 1: An Important Regulator of Obesity Associated Inflammation and Insulin Resistance**, Shuxia Wang, University of Kentucky

10:00-10:30am

Coffee Break

Location: Lobby II & III

Sponsored by The Shriners Hospital for Children

10:30-12:00pm

Plenary II: ECM Dysfunction in Aging and Fibrosis

Location: Grand Bay Ballroom

Chair: Ambra Pozzi, Vanderbilt Medical Center

10:30am **Skin Aging and Rejuvenation: Critical Role of the Dermal Extracellular Matrix**, Gary Fisher, University of Michigan

11:00am **Resident Perivascular Cells and Organ Fibrosis in Disease and Aging**, Ben Humphreys, Washington University

11:30am **ECM and Fibroblast Senescence in Age Related Lung Fibrosis**, Victor Thannickal, University of Alabama at Birmingham

12:00-12:30pm

ASMB Business Meeting

Chair: Suneel Apte, ASMB President

Location: Grand Bay Ballroom

12:30-2:30pm

Poster Session I – Lunch

Location: St. Petersburg Ballroom

Odd Number Boards Present

2:30-4:00pm

Concurrent Sessions

Concurrent A: ECM Proteomics, Structure, Assembly, and Cross-linking

Location: Grand Bay North

Chair: David Birk, University of South Florida

2:30pm **Regulated assembly of the hierarchical structure of tendons and ligaments**, David Birk, University of South Florida

3:00pm **Multi-dimensional Proteomics of the Extracellular Matrix in Regeneration and Fibrosis**, Herbert Schiller, Helmholtz Zentrum München *Abstract/Poster: B018*

3:15pm **Targeted ECM proteomics and cross-linking analysis reveal alterations in the tumor microenvironment of pancreatic ductal carcinomas**, Alex Barrett, University of Colorado - Anschutz Medical Campus *Abstract/Poster: B019*

3:30pm **3D structure and hierarchical organisation of fibrillin microfibrils reveals functional sites for growth factor regulation**, Clair Baldock, University of Manchester *Abstract/Poster: B020*

3:45pm **Deciphering the Molecular Code for Collagen Heterotrimerization**, Andrew DiChiara, MIT *Abstract/Poster: B021*

Scientific Program

Concurrent B: Signaling from the ECM: Cell Matrix Interactions and ECM Growth Factor Regulation

Location: Grand Bay South

Chair: Lynn Sakai, Shriners Hospitals for Children

- 2:30pm **How Does Fibrillin Matrix Contribute to Context-Dependent Growth Factor Signaling?** Lynn Sakai, Shriners Hospitals for Children
- 3:00pm **Fibronectin Fibrils Regulate TGF- β 1-induced Epithelial-Mesenchymal Transition**, Lauren Griggs, Virginia Commonwealth University *Abstract/Poster: B022*
- 3:15pm **Cardiac fibroblast depletion leads to vascular alterations via ECM regulation**, Jill Kuwabara, University of Hawaii at Manoa *Abstract/Poster: B023*
- 3:30pm **The Role of the Secretory Pathway Tyrosine Kinase VLK in Extracellular Matrix Dynamics**, Leila Revollo, Harvard School of Medicine *Abstract/Poster: B024*
- 3:45pm **Integrin-mediated microRNA regulation by fibrillin-1 and fibronectin**, Dieter Reinhardt, McGill University *Abstract/Poster: B025*

Concurrent C: Proteoglycans and Glycosylation

Location: Williams/Demens

Chair: Marian Young, National Institutes of Health

- 2:30pm **Novel Proteoglycan Functions in Skeletal Health and Healing**, Marian Young, National Institutes of Health
- 3:00pm **Aberrant cardiac metabolism and glucose regulation in the absence of decorin**, Maria Gubbiotti, Thomas Jefferson University *Abstract/Poster: B026*
- 3:15pm **Formation of lamellae in the corneal stroma: New insights by syndecan-4 deficient mice and a TNF-dependent animal model and their impact for the pathomechanism of keratoconus**, Uwe Hansen, University Hospital Muenster *Abstract/Poster: B027*
- 3:30pm **Expression and proteolysis of the proteoglycan versican in the tumor microenvironment**, Keiichi Asano, Okayama University *Abstract/Poster: B028*
- 3:45pm **Investigating a Role for HAPLN1 in Multiple Myeloma**, Mailee Huynh, University of Wisconsin *Abstract/Poster: B029*

4:00-4:30pm

Coffee Break

Location: Lobby II & III

Sponsored by the University of South Florida

4:30-6:00pm

Concurrent Sessions

Concurrent D: Basement Membranes

Location: Grand Bay North

Chair: Rachel Lennon, University of Manchester

- 4:30pm **Applying proteomics to understand basement membrane assembly in the kidney**, Rachel Lennon, University of Manchester
- 5:00pm **Evolutionary dawn of extracellular matrix and multicellularity**, Aaron Fidler, Vanderbilt University Medical Center *Abstract/Poster: B030*
- 5:15pm **Integrin and dystroglycan compensate each other to mediate laminin-dependent basement membrane assembly and epiblast polarization**, Peter Yurchenco, Rutgers-RW Johnson Medical School *Abstract/Poster: B031*
- 5:30pm **Restoration of epithelial polarity of human cancer cells by laminin-binding integrin**, Masashi Yamada, Osaka University, Institute for Protein Research *Abstract/Poster: B032*
- 5:45pm **Cross-linking Reveals Laminin Coiled-coil Architecture**, Gad Armony, Weizmann Institute of Science *Abstract/Poster: B033*

Concurrent E: ECM in Musculoskeletal Diseases

Location: Grand Bay South

Chair: Brendan Lee, Baylor College of Medicine

- 4:30pm **Dysregulation of Matrix-Cell Signaling in Osteogenesis Imperfecta**, Brendan Lee, Baylor College of Medicine
- 5:00pm **Identification of Fsp1+ cells as the pro-fibrotic, scar forming cell population during tendon healing**, Alayna Loiselle, University of Rochester Medical Center *Abstract/Poster: B034*
- 5:15pm **Heterotopic ossification and abnormal collagen fibrillogenesis in mice lacking the metalloproteinase-proteoglycans ADAMTS7 and ADAMTS12 and association with human tendon degeneration**, Timothy Mead, Cleveland Clinic Lerner Research Institute *Abstract/Poster: B035*
- 5:30pm **Sc65-null mice provide evidence for a novel endoplasmic reticulum complex regulating collagen lysyl hydroxylation**, Roy Morello, University of Arkansas for Medical Sciences *Abstract/Poster: B036*
- 5:45pm **Expanding the clinical and mutational spectrum of B3GALT6-associated Ehlers-Danlos syndrome and spondyloepimetaphyseal dysplasia with joint hypermobility type 1**, Fransiska Malfait, Center for Medical Genetics *Abstract/Poster: B037*

Scientific Program

Concurrent F: ECM: Immunity, Inflammation, and Infection

Location: Williams/Demens

Chair: Liliana Schaefer, Klinikum der Goethe Universität

- 4:30pm **SLRPs in inflammation**, Liliana Schaefer, Klinikum der Goethe Universität
- 5:00pm **Microvasculature of the Mouse Cerebral Cortex Exhibits Increased Accumulation and Synthesis of Neuroinflammatory Hyaluronan with Aging**, May Reed, University of Washington *Abstract/Poster: B038*
- 5:15pm **ECM remodelling by ADAMTS5 regulates influenza-specific immunity**, John Stambas, Deakin University *Abstract/Poster: B039*
- 5:30pm **The potent inflammatory oxidant, peroxynitrous acid, modifies the extracellular matrix of human atherosclerotic lesions**, Christine Chuang, Panum Institute, University of Copenhagen *Abstract/Poster: B040*
- 5:45pm **Citrullination of the Extracellular Matrix as a Stimulatory Cue for Fibroblast Activation**, Victoria Stefanelli, Georgia Institute of Technology *Abstract/Poster: B041*

Tuesday, November 15th

7:15-8:30am

Women Mentoring Women Breakfast

(Pre-registration Required) Discussion Begins at 7:30am.

Location: Bayboro

7:30 am-5:30pm

Registration

Location: Grand Bay Registration Desk

7:30 am-5:30pm

Exhibits

Location: Lobby II

7:30-8:30am

Breakfast

Location: Lobby II & III

8:30-10:00am

Plenary III: ECM in Regenerative Medicine and the Stem Cell Niche

Location: Grand Bay Ballroom

Chair: Francesco Ramirez, Mount Sinai School of Medicine, ISMB President

- 8:30am *ISMB Distinguished Investigator Awardee*
The Matrix Matters - Role of Laminins in Cell Adhesion and Differentiation, Karl Tryggvason, Karolinska Institute/Duke University-National University of Singapore
- 9:00am **Genetics and Cell Biology of Integrin Signaling**, Reinhard Faessler, Max Planck Institute
- 9:30am **Synthetic Hydrogels as Mimics of the Extracellular Matrix**, Kristi Anseth, University of Colorado

10:00-10:30am

Coffee Break

Location: Lobby II & III

Sponsored by The Company of Biologists

10:30-12:00pm

Plenary IV: Novel Mechanisms of ECM Regulation

Location: Grand Bay Ballroom

Chair: John Couchman, University of Copenhagen

- 10:30am **Circadian rhythms in matrix secreting cells: a new dimension in ECM research**, Qing-Jun Meng, The University of Manchester
- 11:00am **Extracellular tyrosine kinases as regulators of ECM**, Malcolm Whitman, Harvard University
- 11:30am **Regulating the Regulators: Illustrating the Interplay Between the Matrix and the microRNA**, Kim Midwood, University of Oxford

12:00-2:00pm

Poster Session II - Lunch

Location: St. Petersburg Ballroom

Even Number Boards Present

Scientific Program

2:00-3:30pm

Concurrent Sessions

Concurrent G: ECM in Fibrosis: Liver, Lung, Kidney

Location: Grand Bay North

Chair: Michelle Tallquist, University of Hawaii

- 2:00pm **Signals regulating maintenance of resident fibroblasts**, Michelle Tallquist, University of Hawaii
- 2:30pm **High Throughput Cell-based Assays to Measure TGF β Signaling and Extracellular Matrix Remodeling in Fibrosis**, Pitchumani Sivakumar, Bristol-Myers Squibb *Abstract/Poster: B042*
- 2:45pm **Interrogating mechanisms of kidney disease with proteomics of cell-matrix adhesion**, Michael Randles, University of Manchester *Abstract/Poster: B043*
- 3:00pm **Mechanisms of high glucose-induced fibronectin matrix assembly by mesangial cells**, Maria Eugenia Vega, Princeton University *Abstract/Poster: B044*
- 3:15pm **Direct Evidence of a Force-activated Conformational "Switch" within the Integrin-binding Domain of Fibronectin**, John Nicosia, Georgia Institute of Technology *Abstract/Poster: B045*

Concurrent H: ECM in Cardiovascular Disease

Location: Grand Bay South

Chair: Merry Lindsey, University of Mississippi Medical Center

- 2:00pm **The crossroads between cardiac inflammation and fibrosis**, Merry Lindsey, University of Mississippi Medical Center
- 2:30pm **Rational therapeutics to increase elastin deposition and improve arterial stiffness and blood flow in diseases of elastin insufficiency**, Beth Kozel, National Institutes of Health *Abstract/Poster: B046*
- 2:45pm **Polydom is an extracellular matrix protein essential for lymphatic vessel remodeling**, Nanami Morooka, Institute for Protein Research *Abstract/Poster: B047*
- 3:00pm **Type III collagen is important for cardiovascular and dermal development, and type I collagen fibrillogenesis**, Sanne D'hondt, Ghent University *Abstract/Poster: B048*
- 3:15pm **Lysyl oxidase mutation in familial thoracic aortic aneurysm and dissection**, Vivian Lee, Washington University School of Medicine *Abstract/Poster: B049*

Concurrent I: Integrins and Novel Receptor Systems

Location: Williams/Demens

Chair: Dwayne Stupack, University of California San Diego

- 2:00pm **Integrin-Mediated Adhesion, Migration and Survival in Tumor Cells**, Dwayne Stupack, University of California San Diego

- 2:30pm **Implications of variable biophysical properties of β 1 and β 3 transmembrane and cytoplasmic domains on integrin functions**, Sijo Mathew, Vanderbilt University Medical Center *Abstract/Poster: B050*
- 2:45pm **The Hyaluronan Receptor RHAMM is Indispensable for VEGF-Stimulated Activation of Src and eNOS to Produce Nitric Oxide**, Rashmin Savani, University of Texas Southwestern Medical Center *Abstract/Poster: B051*
- 3:00pm **Probing the acidic residue within the integrin binding site of laminin-511 that directly interacts with the metal ion-dependent adhesion site of integrin β 1 by comprehensive site-directed mutagenesis**, Yukimasa Taniguchi, Osaka University *Abstract/Poster: B052*
- 3:15pm **Role of the hyaluronan receptor layilin in cell migration**, Sarah Wilcox-Adelman, New York University *Abstract/Poster: B053*

3:30-4:00pm

Coffee Break

Location: Lobby II & III

4:00-5:30pm

Concurrent Sessions

Concurrent J: Proteases and Their Inhibitors

Location: Grand Bay North

Chair: Christopher Overall, University of British Columbia

- 4:00pm **The Proteome and N-termini analysis of the ECM in skin and cartilage reveals new proteolytic regulation of inflammatory networks**, Christopher Overall, University of British Columbia
- 4:30pm **The secreted metalloproteinase ADAMTS9 is a cell-autonomous regulator of smooth muscle cell plasticity**, Timothy Mead, Cleveland Clinic Lerner Research Institute *Abstract/Poster: B054*
- 4:45pm **EphA2 proteolysis converts it from a tumor suppressor to an oncoprotein**, Naohiko Koshikawa, Kanagawa Cancer Center *Abstract/Poster: B055*
- 5:00pm **ADAMTSL6 β exacerbates tissue destruction of aortic aneurysm and dissection in Marfan syndrome mouse model through promotion of ADAMTS4 activity**, Ai Orimoto, Tohoku University *Abstract/Poster: B056*
- 5:15pm **Characterization of the metalloproteinase ADAMTS16 and its role in fibronectin assembly**, Rahel Schnellmann, Friedrich Miescher Institute and Cleveland Clinic Lerner Research Institute *Abstract/Poster: B057*

Scientific Program

Concurrent K: Mechanobiology

Location: Grand Bay South

Chair: Paul Janmey, University of Pennsylvania

- 4:00pm **Effects of matrix stiffness on tissue mechanics and cell function**, Paul Janmey, University of Pennsylvania
- 4:30pm **Syndecan-4, TRPC Channels and the Myofibroblast Phenotype**, John Couchman, University of Copenhagen
Abstract/Poster: B058
- 4:45pm **Human Brain Endothelial Cells on Biomimetic Substrates: Mechanobiological Response to Tumor Cells**, Kelsey Gray, University of Maryland
Abstract/Poster: B059
- 5:00pm **Sugars increase the stiffness of kidney glomerular extracellular matrix ex vivo**, Nicholas Ferrell, Vanderbilt University
Abstract/Poster: B060
- 5:15pm **Extracellular matrix stiffness controls the breast circadian clock**, Nan Yang, University of Manchester
Abstract/Poster: B061

Concurrent L: Tumor Microenvironment

Location: Williams/Demens

Chair: Alexandra Naba, University of Illinois at Chicago

- 4:00 pm **Tumor progression is a question of context! Exploring and exploiting the extracellular matrix for diagnosing and treating cancers**. Alexandra Naba, University of Illinois at Chicago
Abstract/Poster: B157
- 4:30pm **Dynamic ECM Stiffness Regulates Epithelial-Mesenchymal Transition via Twist-G3BP2**, Adam Engler, University of California, San Diego
Abstract/Poster: B062
- 4:45pm **Elucidating the actions of ADAMTS1, from stromal and/or tumor origin, in distinct tumor models**, Francisco Javier Rodriguez, GENYO
Abstract/Poster: B063
- 5:00pm **Inhibition of discoidin domain receptor 1 reduces collagen-mediated tumorigenicity in pancreatic ductal adenocarcinoma**, Rolf Brekken, University of Texas Southwestern Medical Center
Abstract/Poster: B064
- 5:15pm **M2-like macrophages mediate collagen degradation during tumor growth**, Daniel Madsen, Center for Cancer Immune Therapy
Abstract/Poster: B065

7:00-11:00pm

Banquet – Dali Museum

(Advanced ticket purchase required.)

Wednesday, November 16th

8:00 am-12:00 pm

Registration

Location: Grand Bay Registration Desk

8:00 am-1:00 pm

Exhibits

Location: Lobby II

8:00-9:00 am

Breakfast

Location: Lobby II & III

9:00-11:00 am

Plenary V: Therapeutics to Regulate ECM in Diseases

Location: Grand Bay Ballroom

Chair: Adam Engler, University of California, San Diego

- 9:00am **ISMB-ASMB Ruth Chiquet-Ehrismann Tribute: Instructive Roles for ECM Signaling in Development and Disease**, Jean Schwarzbauer, Princeton University
- 9:30am **Heparanase regulation of myeloma progression: From mechanism to therapy**, Ralph Sanderson, University of Alabama at Birmingham
- 10:00am **Tissue Extracellular Matrices as Scaffolds: Composition, Function, and Mechanism**, Jennifer Elisseeff, Johns Hopkins University
- 10:30am **Matriglycan: a novel polysaccharide that links dystroglycan to the extracellular matrix**, Kevin Campbell, University of Iowa

11:00-11:30 am

Coffee Break

Location: Lobby II & III

Sponsored by The Company of Biologists

Scientific Program

11:30am -1:00 pm

Concurrent Sessions

Concurrent M: ECM in Wound Healing and Skin Diseases

Location: Grand Bay North

Chair: Beate Eckes, University of Cologne

- 11:30am **Structural and non-structural functions of COMP**, Beate Eckes, University of Cologne
- 12:00pm **CCN2/CTGF is required for dermal fibrosis and is essential for differentiation of dermal progenitor cells into myofibroblasts in vivo and in vitro**, Andrew Leask, University of Western Ontario
Abstract/Poster: B066
- 12:15pm **Fibronectin Extracellular Matrix as a Guide for Neuron Outgrowth and Nerve Regeneration**, Greg Harris, Princeton University
Abstract/Poster: B067
- 12:30pm **Modulation of macrophage phenotype by the extracellular matrix during wound healing**, Wendy Liu, University of California Irvine
Abstract/Poster: B068
- 12:45pm **Homozygous ATP6V1E1 and ATP6V1A mutations cause autosomal recessive cutis laxa**, Fransiska Malfait, Center for Medical Genetics
Abstract/Poster: B069

Concurrent N: ECM in Morphogenesis

Location: Grand Bay South

Chair: Richard Tucker, University of California, Davis

- 11:30am **A Novel Role for Teneurins in Neuronal Development**, Richard Tucker, University of California, Davis
- 12:00pm **3D Visualization of the Extracellular Matrix During Embryonic Development**, Sarah Calve, Purdue University
Abstract/Poster: B070
- 12:15pm **Biglycan and Decorin may be the 'Glue' that Aids Palate Fusion**, Kathy Svoboda, Texas A&M Baylor College of Dentistry
Abstract/Poster: B071
- 12:30pm **Embryo Implantation Triggers Dynamic Spatiotemporal Expression of the Basement Membrane Toolkit During Uterine Reprogramming**, Celestial Jones-Paris, Vanderbilt University
Abstract/Poster: B072
- 12:45pm **Versican is required for primary hematopoiesis, yolk sac vasculogenesis, and retention of hyaluronan in the mouse embryo**, Sumeda Nandadasa, Cleveland Clinic Lerner Research Institute
Abstract/Poster: B073

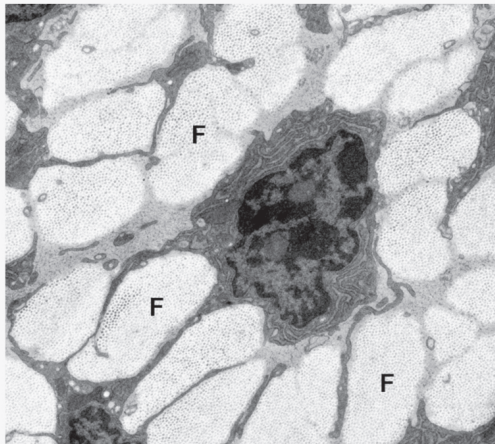
Concurrent O: ECM in Exosomes: Intercellular Communication

Location: Williams/Demens

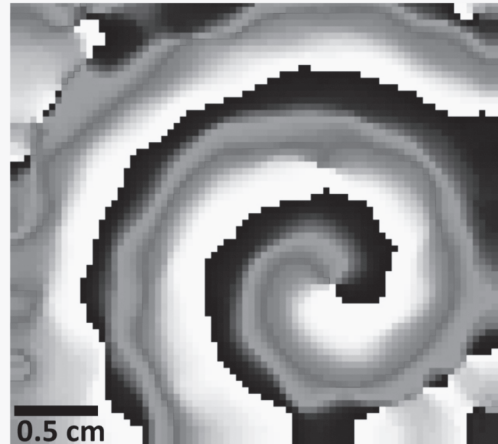
Chair: Alissa Weaver, Vanderbilt University

- 11:30am **Extracellular matrix, a key exosome cargo driving cell motility**, Alissa Weaver, Vanderbilt University
- 12:00pm **Cross Talk Between Endothelial Cells and Breast Cancer Stem Cell Derived Exosomes**, Sukhbir Kaur, National Cancer Institute
Abstract/Poster: B074
- 12:15pm **Mesenchymal stem cell-derived extracellular vesicles promote resolution of pulmonary fibrosis**, Tzu-Pin Shentu, University of California San Diego
Abstract/Poster: B075

Electron micrograph of developing tendon

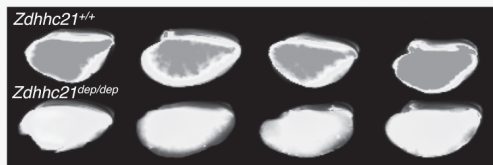


Cardiac arrhythmia in vitro

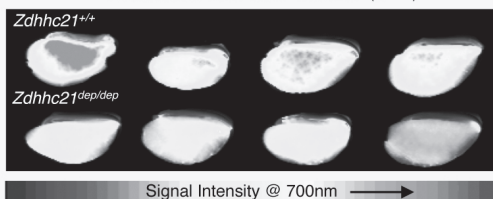


Vascular permeability controlled by palmitoylation

4 Hours After LPS-SIRS Induction (n = 4)

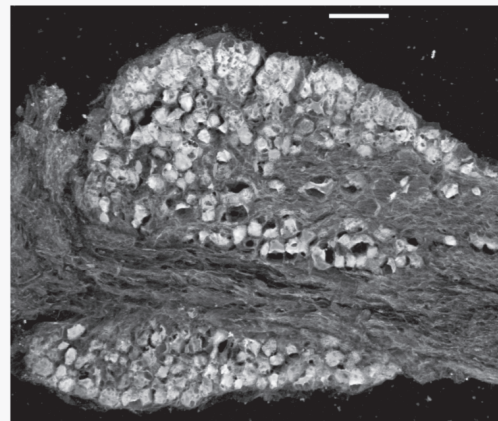


4 Hours After Burn-SIRS Induction (n = 4)



Signal Intensity @ 700nm →

Reporter expression in nociceptive nerves



Clockwise: (1) Electron micrograph of a mouse tendon. Courtesy of Dr. David Birk. (2) Cardiac arrhythmia in vitro using voltage imaging in cardiomyocyte-like cells (HL-1) grown in a 35 mm dish. The cells exhibited spontaneous and coordinated arrhythmic activity. Courtesy of Dr. Sami Noujiam. (3) Red fluorescent protein (tdTomato) expression in the mouse vagal sensory ganglion, driven by the promoter for the nociceptive ion channel TRPV1. All neurons have been stained for pan-neuronal marker pcp9.5 (green). Bar denotes 100µm. Courtesy of Dr. Tom Taylor-Clark. (4) Evans Blues extravasation following LPS or thermal injury is decreased in mice deficient in the palmitoyl acyltransferase DHHC21. Courtesy of Dr. Sarah Yuan.

The USF Department of Molecular Pharmacology & Physiology is composed of research scientists, educators and trainees with diverse backgrounds in pharmacology, physiology, neuroscience, and molecular/cellular biology. The goal of our research programs is to translate studies that decipher mechanisms of diseases or discover novel diagnostic/therapeutic targets into improved health care. Our faculty are funded by awards from multiple national agencies including the National Institutes of Health, the Office of Naval Research, the American Heart Association and the American Alzheimer's Association. **We are currently seeking faculty candidates with NIH-funded research programs in cardiovascular sciences.**

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<http://health.usf.edu/medicine/mpp/>



Molecular Pharmacology & Physiology Faculty and Research Staff

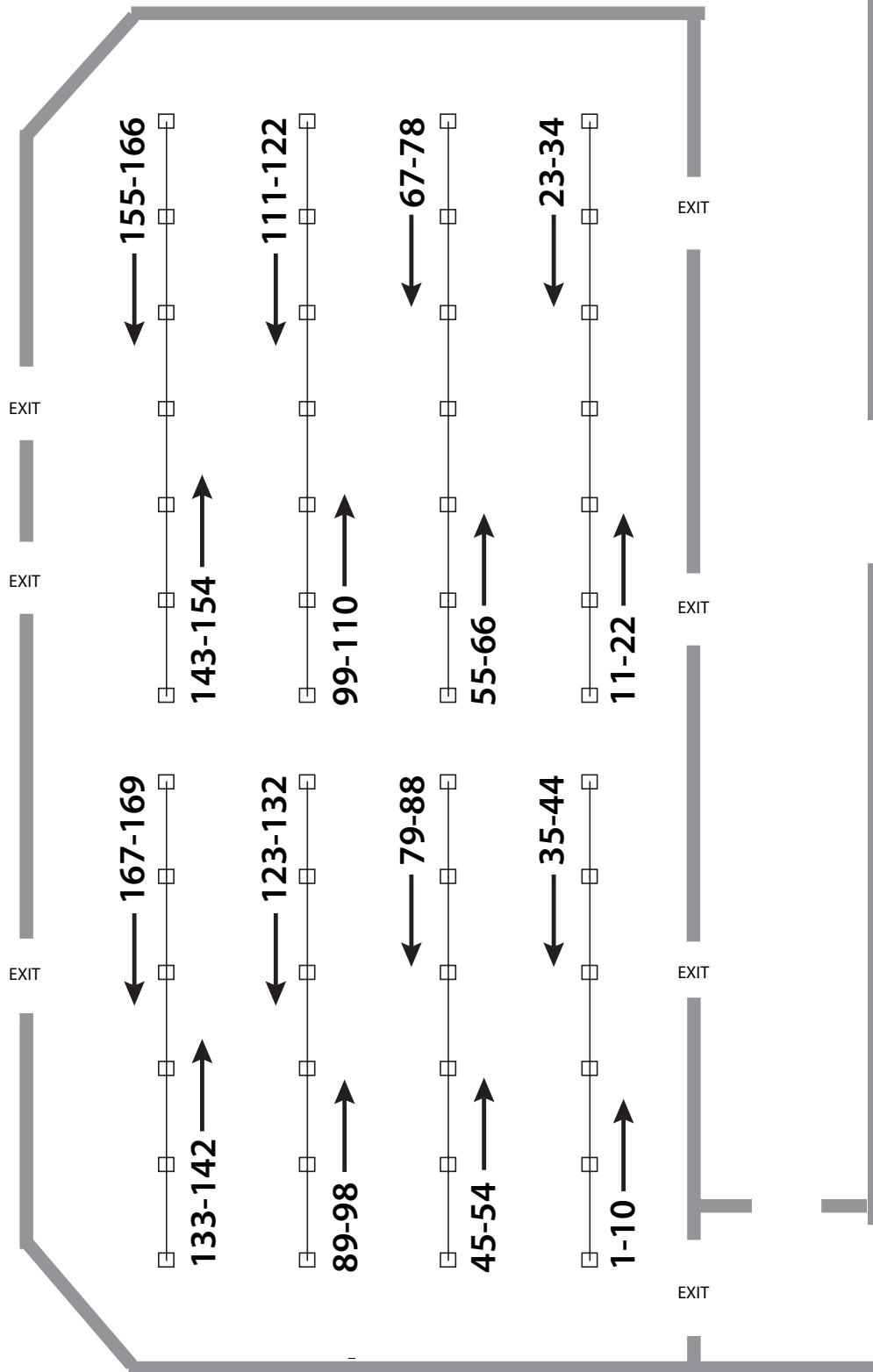
Poster Floor Plan

Poster Session I

ODD Numbers Present
Monday, November 14th
12:30 – 2:30 PM

Poster Session II

EVEN Numbers Present
Tuesday, November 15th
12:00 – 2:00 PM



Poster Program

Guest Symposium 1: TERMIS-AM

Abstract: 1

Poster Session 1

Mesenchymal Stem Cells Drive Elastogenesis Within a 3D Fibrin Gel Model

Aneesh Ramaswamy¹, Kory Blose¹, John Curci², David Vorp¹, Justin Weinbaum¹, ¹University of Pittsburgh, ²Vanderbilt University

Abstract: 2

Poster Session 2

Neuroprotective Chondroitin Sulfate Glycosaminoglycan Hydrogels Facilitate Functional Recovery Chronically Post-Traumatic Brain Injury

Lohitash Karumbaiah, Martha Betancur, Hannah Mason, Phillip Holmes, The University of Georgia

SIS 1 - Extracellular Matrix Dynamics in Development and Disease

Abstract: 3

Poster Session 1

ADAMTS9-mediated ECM remodeling is a necessary regulator of Hedgehog signaling during neural tube morphogenesis

Sumeda Nandadasa, Suneel Apte, Cleveland Clinic Lerner Research Institute

Abstract: 4

Poster Session 2

Localized LoxL3-Dependent Fibronectin Oxidation Regulates Myofiber Stretch and Integrin-Mediated Adhesion

Ortal Kraft-Sheleg Peleg Hasson, Technion - Israel Institute of Technology

Abstract: 5

Poster Session 1

Spatial and temporal dissection of pathogenesis in a mouse model of ocular dysgenesis caused by a Col4a1 mutation

Mao Mao¹, Yvonne Ou¹, Márton Kiss², Douglas Gould¹, ¹University of California, San Francisco, ²University of Szeged

SIS 2: Cilia, Inflammation, and Fibrosis in the Kidney and Liver

Abstract: 6

Poster Session 2

Primary cilia regulate kupffer cell/resident macrophage activation, monocyte recruitment, and hepatic fibrosis in a mouse model of PKD

Kurt Zimmerman, Cheng Song, Bradley Yoder, University of Alabama at Birmingham

Abstract: 7

Poster Session 1

Evidence for a 'pathogenic triumvirate' in congenital hepatic fibrosis in autosomal recessive polycystic kidney disease

Lu Jiang, Pingping Fang, James Weemhoff, Udayan Apte, Michele Pritchard, University of Kansas Medical Center

Abstract: 8

Poster Session 2

Fibronectin signaling modulates cyst progression in models of autosomal dominant polycystic kidney disease (ADPKD)

Ming Ma¹, Rachel Simon², Yasunobu Ishikawa¹, Xin Tian¹, Ke Dong¹, Yiqiang Cai¹, Chao Zhang¹, Takao Sakai³, Stefan Somlo¹, ¹Yale School of Medicine, ²Barnard College, Columbia University, ³Institute of Translational Medicine, The University of Liverpool

Abstract: 9

Poster Session 1

LOXL2 is Upregulated in Diabetic Nephropathy by Smad3-dependent TGF- β 1 Signaling

Roberto Vanacore, Catalina Kretschmar, Alberto Lopez-Jimenez, Vanderbilt University Medical Center

Guest Symposium 2: CCN Society

Abstract: 10

Poster Session 2

Elevated CCN1 in aged human skin functions as an important driving force for human skin connective tissue aging

Taihao Quan, University of Michigan

Abstract: 11

Poster Session 1

WISP1/CCN4 and musculoskeletal function

Azusa Made¹, Yuya Yoshioka², Mitsuaki Ono², Tina Kilts¹, Martijn van den Bosch³, Sheena Sikka¹, Vardit Kram¹, Arjen Blom³, Marian Young¹, ¹Craniofacial and Skeletal Diseases Branch, NIDCR, NIH, ²Department of Oral Rehabilitation and Regenerative Medicine, Okayama University, ³Experimental Rheumatology, Radboud University Medical Center

Abstract: 12

Poster Session 2

Mutant COMP adversely impacts intramembranous and endochondral bone formation

Karen Posey¹, Alexander Burger², Alka Veerisetty¹, Mohammad Housain¹, Jacqueline Hecht^{1,2}, ¹McGovern Medical School at University of Texas Health at Houston, ²School of Dentistry University of Texas Health at Houston

SIS 3: ECM in Vascular Development

Abstract: 13

Poster Session 1

Importance of cellular and plasma fibronectin in maintaining vessel wall integrity and function

Heena Kumra, Laetitia Sabatier, Jesse Chen, Amani Hassan, Dieter P. Reinhardt, McGill University

Abstract: 14

Poster Session 2

Fibulin-4 is important for maintaining vascular wall integrity in large but not small vessels

Carmen Halabi¹, Thomas Broekelmann¹, Mon-Li Chu², Robert Mecham¹, ¹Washington University School of Medicine, ²Thomas Jefferson University

Poster Program

SIS 4: Unveiling the Mechanisms of Novel ECM-modifying Proteases: Focus on Substrates

Abstract: 15

Poster Session 1

Study of the extracellular protease ADAMTS1 and its substrates in the vasculature: relevance for tumor progression and neo-vascularization

Francisco Javier Rodriguez-Baena¹, Silvia Redondo-Garcia¹, Carlos Peris-Torres¹, Orlando Serrano-Garrido¹, Maria del Carmen Plaza-Calonge¹, Darryl L. Russell², Juan Carlos Rodriguez-Manzanares¹, ¹GENYO. Centre for Genomics and Oncological Research, ²The Robinson Institute - Research Centre for Repro

Abstract: 16

Poster Session 2

Identification of new substrates of ADAMTS2, 3 and 14 and evaluation of the functional consequences of their cleavage

Cédric Leduc¹, Mourad Bekhouche¹, Laura Dupont¹, Gabriel Mazzucchelli², Edwin De Pauw², Catherine Moali³, Alain Colige¹, ¹Laboratory of Connective Tissues Biology, GIGA-R, ²Mass Spectrometry Laboratory, GIGA-Proteomics, Uni, ³Institut de Biologie et Chimie des Protéines, CNR

Abstract: 17

Poster Session 1

The effects of Granzyme B-mediated ECM cleavage on stem cell function in decellularized human dermis

Valerio Russo, Ulrich Eckhard, Nick J. Carr, Chris M. Overall, David J. Granville, University of British Columbia

Concurrent A: ECM Proteomics, Structure, Assembly, and Cross-linking

Abstract: 18

Poster Session 2

Multi-dimensional Proteomics of the Extracellular Matrix in Regeneration and Fibrosis

Christoph Mayr, Maximilian Strunz, Herbert B Schiller, Comprehensive Pneumology Center, Helmholtz Zentrum

Abstract: 19

Poster Session 1

Targeted ECM proteomics and cross-linking analysis reveal alterations in the tumor microenvironment of pancreatic ductal carcinomas

Alex Barrett¹, Ryan Hill¹, Hanane Laklai¹, Yekaterina Miroshnikova², Valerie Weaver², Kirk Hansen¹, ¹University of Colorado Denver, ²University of California San Francisco

Abstract: 20

Poster Session 2

3D structure and hierarchical organisation of fibrillin microfibrils reveals functional sites for growth factor regulation

Clair Baldock¹, Alan Godwin¹, Michael Sherratt², Alan Roseman², ¹Wellcome Trust Centre for Cell-Matrix Research, University of Manchester, ²University of Manchester

Abstract: 21

Poster Session 1

Deciphering the Molecular Code for Collagen Heterotrimerization

Andrew DiChiara, Patreece Suen, Rebecca Taylor, Diya Malhotra, Matthew Shoulders, MIT

Concurrent B: Signaling from the ECM: Cell Matrix Interactions and ECM Growth Factor Regulation

Abstract: 22

Poster Session 2

Fibronectin Fibrils Regulate TGF- β 1-induced Epithelial-Mesenchymal Transition

Lauren Griggs, Roshni Malik, Nadiah Hassan, Brittany Martinez, Lynne Elmore, Christopher Lemmon, Virginia Commonwealth Univ.

Abstract: 23

Poster Session 1

Cardiac fibroblast depletion leads to vascular alterations via ECM regulation

Jill Kuwabara, Michelle Tallquist, University of Hawaii at Manoa

Abstract: 24

Poster Session 2

The Role of the Secretory Pathway Tyrosine Kinase VLK in Extracellular Matrix Dynamics

Leila Revollo¹, Mattia Bordoli², Vicki Rosen¹, Malcolm Whitman¹, ¹Harvard School of Dental Medicine, ²Swiss Federal Institute of Technology in Zurich

Abstract: 25

Poster Session 1

Integrin-mediated microRNA regulation by fibrillin-1 and fibronectin

Karina Zeyer, Rongmo Zhang, Heena Kumra, Dieter Reinhardt, McGill University

Concurrent: C Proteoglycans and Glycosylation

Abstract: 26

Poster Session 2

Aberrant cardiac metabolism and glucose regulation in the absence of decorin

Maria A. Gubbio, Renato V. Iozzo, Thomas Jefferson University

Abstract: 27

Poster Session 1

Formation of lamellae in the corneal stroma: New insights by syndecan-4 deficient mice and a TNF-dependent animal model and their impact for the pathomechanism of keratoconus

Uwe Hansen¹, Thomas Pap¹, Nicole Eter², Maged Alnawaiseh², ¹Institute of Experimental Musculoskeletal Medicine, ²Department of Ophthalmology, University of Muenste

Abstract: 28

Poster Session 2

Expression and proteolysis of the proteoglycan versican in the tumor microenvironment

Keiichi Asano¹, Tyler Alban², Courtney Nelson², Junko Inagaki¹, Takashi Ohtsuki³, Shozo Kusachi³, Yoshifumi Ninomiya¹, Toshitaka Oohashi¹, Suneel Apte², Satoshi Hirohata³, ¹Okayama University Graduate School of Medicine, ²Cleveland Clinic Lerner Research Institute, ³Okayama University Graduate School of Health Science

Poster Program

Abstract: 29

Poster Session 1

Investigating a Role for HAPLN1 in Multiple Myeloma

Mailee Huynh¹, Chorom Pak², Kenneth Chng³, Stephanie Markovina⁴, Natalie Callander⁵, Shigeki Miyamoto⁶, ¹Cancer Biology Program, ²Molecular and Cellular Pharmacology Program, ³McArdle Laboratory for Cancer Research, ⁴MSTP Program, ⁵Carbone Cancer Center, ⁶McArdle Laboratory for Cancer Research, University of Wisconsin

Concurrent D: Basement Membranes

Abstract: 30

Poster Session 2

Evolutionary dawn of extracellular matrix and multicellularity

Aaron Fidler, Sergei Chetyrkin, Carl Darris Vadim Pedchenko, Sergey Budko, Kyle Brown, Julie Hudson, Antonis Rokas, W. Gray Jerome, Billy Hudson, Vanderbilt University Medical Center

Abstract: 31

Poster Session 1

Integrin and dystroglycan compensate each other to mediate laminin-dependent basement membrane assembly and epiblast polarization

Shaohua Li, Yanmei Qi, Karen McKee, Jie Liu, June Hsu, Peter Yurchenco, Rutgers - Robert Wood Johnson Medical School

Abstract: 32

Poster Session 2

Restoration of epithelial polarity of human cancer cells by laminin-binding integrin

Masashi Yamada, Yuta Nagano, Shoko Usami, Chiaki Tomimoto, Ayaka Iwamura, Ryoko Sato-Nishiuchi, Kiyotoshi Sekiguchi, Division of Matrixome Science and Application, Institute for Protein Research, Osaka University

Abstract: 33

Poster Session 1

Cross-linking Reveals Laminin Coiled-coil Architecture

Gad Armony, Yishai Levin, Yaakov Levy, Deborah Fass, Weizmann Institute of Science

Concurrent E: ECM in Musculoskeletal Diseases

Abstract: 34

Poster Session 2

Identification of Fsp1+ cells as the pro-fibrotic, scar forming cell population during tendon healing

Jessica Ackerman, Alayna Loiselle, University of Rochester Medical Center

Abstract: 35

Poster Session 1

Heterotopic ossification and abnormal collagen fibrillogenesis in mice lacking the metalloproteinase-proteoglycans ADAMTS7 and ADAMTS12 and association with human tendon degeneration

Timothy Mead¹, Daniel McCulloch¹, Jason Ho¹, Yaoyao Du¹, Sheila Adams², David Birk², Joseph Iannotti¹, Suneel Apte¹, ¹Cleveland Clinic, ²University of South Florida

Abstract: 36

Poster Session 2

Sc65-null mice provide evidence for a novel endoplasmic reticulum complex regulating collagen lysyl hydroxylation

Melissa Heard-Lipsmeyer¹, Roberta Besio¹, Milena Dimori¹, Sarah Zimmerman¹, Larry Suva², Alan Tackett¹, David Eyre³, Roy Morello¹, ¹University of Arkansas for Medical Sciences, ²Texas A&M University, ³University of Washington

Abstract: 37

Poster Session 1

Expanding the clinical and mutational spectrum of B3GALT6-associated Ehlers-Danlos syndrome and spondyloepimetaphyseal dysplasia with joint hypermobility type 1

Fransiska Malfait¹, Tim Van Damme², Xiaomeng Pang³, Brecht Guillemyn¹, Sandrine Gulberti³, Delfien Syx¹, Olivier Kaye⁴, Christine de Die-Smulders⁵, Rolph Pfundt⁶, Ariana Kariminejad⁷, Sheela Nampoothiri⁸, Geneviève Pierquin⁹, Saskia Bulk¹⁰, ¹Center for Medical Genetics Ghent, Ghent University Hospital, ²University of Colorado, ³MolCeTEG Team, -Université de Lorraine, ⁴Service de Rhumatologie, CHU Liège, ⁵Department of Clinical Genetics, Maastricht UMC, , ⁶Department of Human Genetics, Radboud UMC, Nijmegen, ⁷Kariminejad-Najmabadi Pathology & Genetics Center, ⁸Amrita Institute of Medical Sciences & Research Centre, Cochin, ⁹Service de Génétique Médicale, CHU Liège, ¹⁰Service de Génétique Médicale, CHU Liège

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Microvasculature of the Mouse Cerebral Cortex Exhibits Increased Accumulation and Synthesis of Neuroinflammatory Hyaluronan with Aging

May J. Reed¹, Robert B. Vernon², Mamatha Damodarasamy¹, Christina K. Chan², Thomas N. Wight², Itay Bentov¹, William A. Banks¹, ¹University of Washington School of Medicine, ²Matrix Biology Program, Benaroya Research Institute at Virginia Mason

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ECM remodelling by ADAMTS5 regulates influenza-specific immunity

Meagan McMahon¹, Siying Ye¹, Lenny Izzard¹, Ralph Tripp², Daniel McCulloch¹, John Stambas¹, ¹Deakin University, ²University of Georgia

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The potent inflammatory oxidant, peroxynitrous acid, modifies the extracellular matrix of human atherosclerotic lesions

Christine Y. Chuang¹, Georg Degendorfer², Lasse Lorentzen¹, Astrid Hammer², John M. Whitelock³, Ernst Malle², Michael J. Davies¹, ¹Panum Institute, University of Copenhagen, ²The Heart Research Institute, University of Sydney, ³Institute of Cell Biology, Centre for Molecular Medicine, Medical University of Graz, ³Graduate School of Biomedical Engineering, The University of New South Wales

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Citrullination of the Extracellular Matrix as a Stimulatory Cue for Fibroblast Activation

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²Georgia Institute of Technology, ³University of Virginia

Concurrent G: ECM in Fibrosis: Liver, Lung, Kidney

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High Throughput Cell-based Assays to Measure TGF β Signaling and Extracellular Matrix Remodeling in Fibrosis

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Interrogating mechanisms of kidney disease with proteomics of cell-matrix adhesion

Michael Randles¹, Hellyeh Hamidi¹, Tobias Starborg¹, Karl Kadler¹, Roy Zent², Martin Humphries¹, Jeffrey Miner³, Rachel Lennon¹,
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³Division of Nephrology, Washington University School of Medicine

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Maria E. Vega, Alexandra K. Pastino, Jean E. Schwarzbauer,
Molecular Biology Department, Princeton University

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Direct Evidence of a Force-activated Conformational "Switch" within the Integrin-binding Domain of Fibronectin

John Nicosia¹, Lizhi Cao², Jacqueline Larouche¹, Thomas Barker³,
¹Georgia Institute of Technology, ²Biogen Idec, ³University of Virginia

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Rational therapeutics to increase elastin deposition and improve arterial stiffness and blood flow in diseases of elastin insufficiency

Russell Knutsen¹, Scott Beeman², Joel Garbow², Michael Shoykhet², Beth Kozel¹, ¹National Institutes of Health, ²Washington University School of Medicine

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Polydom is an extracellular matrix protein essential for lymphatic vessel remodeling

Nanami Morooka, Sugiko Futaki, Yuta Totani, Ryoko Sato-Nishiuchi, Itsuko Nakano, Kiyotoshi Sekiguchi, *Institute for Protein Research, Osaka University*

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Type III collagen is important for cardiovascular and dermal development, and type I collagen fibrillogenesis

Sanne D'hondt¹, Brecht Guillemin¹, Sofie Symoens¹, Riet De Rycke², Yoshi Ishikawa³, Hans Peter Bächinger³, Sophie Janssens², Mathieu Bertrand², Fransiska Malfait¹,
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Vivian Lee, Carmen Halabi, Nathan Stitzel, Robert Mecham,
Washington University in St. Louis

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Implications of variable biophysical properties of $\beta 1$ and $\beta 3$ transmembrane and cytoplasmic domains on integrin functions

Sijo Mathew¹, Zhenwei Lu², Jiang Chen², Ambra Pozzi¹, Charles Sanders², Roy Zent¹, ¹Vanderbilt University Medical Center, ²Vanderbilt University

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The Hyaluronan Receptor RHAMM is Indispensable for VEGF-Stimulated Activation of Src and eNOS to Produce Nitric Oxide

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Probing the acidic residue within the integrin binding site of laminin-511 that directly interacts with the metal ion-dependent adhesion site of integrin $\beta 1$ by comprehensive site-directed mutagenesis

Yukimasa Taniguchi, Shaoliang Li, Erika Yamashita, Mamoru Takizawa, Eriko Oonishi, Junko Toga, Emiko Yagi, Kiyotoshi Sekiguchi, *Institute for Protein Research, Osaka University*

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Sarah Wilcox-Adelman, Bernadette Bracken, Soo Ma,
New York University

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The secreted metalloproteinase ADAMTS9 is a cell-autonomous regulator of smooth muscle cell plasticity

Timothy Mead¹, Yaoyao Du¹, Courtney Nelson¹, Ndeye-Aicha Gueye¹, Carolyn Dancevic², Suneel Apte¹, ¹Cleveland Clinic, ²Deakin University

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EphA2 proteolysis converts it from a tumor suppressor to an oncoprotein

Naohiko Koshikawa¹, Daisuke Hoshino², Alissa Weaver³, Motoharu Seiki⁴, ¹Kanagawa Cancer Center / Institute of Medical Science, ²Kanagawa Cancer Center, ³Department of Cancer Biology, Vanderbilt University School of Medicine, ⁴Kanazawa University School of Medicine / Institute of Medical Science University of Tokyo

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ADAMTSL6 β exacerbates tissue destruction of aortic aneurysm and dissection in Marfan syndrome mouse model through promotion of ADAMTS4 activity

Ai Orimoto¹, Yousuke Murasawa², Zenzo Isogai², Miyuki Chijiwa³, Satsuki Mochizuki³, Kyoko Imanaka-Yoshida⁴, Yasunori Okada⁵, Masahiro Saito¹, ¹Tohoku University Graduate School of Dentistry, ²National Center for Geriatrics and Gerontology, ³Keio University School of Medicine, ⁴Mie University Graduate School of Medicine, ⁵Juntendo University Graduate School of Medicine

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Characterization of the metalloproteinase ADAMTS16 and its role in fibronectin assembly

Rahel Schnellmann¹, Ragna Sack¹, Suneel Apte², Ruth Chiquet-Ehrismann¹, ¹Friedrich Miescher Institute for Biomedical Research, ²Cleveland Clinic Lerner Research Institute

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Syndecan-4, TRPC Channels and the Myofibroblast Phenotype

Sandeep Gopal, Hinke Multhaupt, John Couchman, University of Copenhagen

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Sugars increase the stiffness of kidney glomerular extracellular matrix ex vivo

Rishabh Agarwal, Sarah Dillender, Nicholas Ferrell, Vanderbilt University

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Extracellular matrix stiffness controls the breast circadian clock

Nan Yang, Jack Williams, Vanja Pekovic-Vaughan, Nicole Gossan, Alun Hughes, Julia Cheung, Peng-bo Wang, Safiah Olabi, Charles Streuli, Qing-Jun Meng, University of Manchester

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Matthew Odeck, Spencer Wei, Jing Yang, Adam Engler, University of California San Diego

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Elucidating the actions of ADAMTS1, from stromal and/or tumor origin, in distinct tumor models

Francisco Javier Rodríguez-Baena, Silvia Redondo-García, Carlos Peris-Torres, Orlando Serrano-Garrido, Rubén Fernández-Rodríguez, María del Carmen Plaza-Calonge, Juan Carlos Rodríguez-Manzaneque, GENYO. Centre for Genomics and Oncological Research: Pfizer / Universidad de Granada / Junta de Andalucía

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Inhibition of discoidin domain receptor 1 reduces collagen-mediated tumorigenicity in pancreatic ductal adenocarcinoma

Kristina Aguilera¹, Zhen Wang², Ke Ding², Rolf Brekken¹, ¹UT Southwestern, ²Guangzhou Institutes of Biomedicine and Health

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M2-like macrophages mediate collagen degradation during tumor growth

Daniel H Madsen¹, Thomas H Bugge², ¹Center for Cancer Immune Therapy, Copenhagen University Hospital, ²NIH

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Andrew Leask, Matthew Tsang, Katherine Thompson, University of Western Ontario

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Fibronectin Extracellular Matrix as a Guide for Neuron Outgrowth and Nerve Regeneration

Greg M. Harris¹, Nicolas N. Madigan², Karen L. Lancaster¹, Lynn W. Enquist¹, Anthony J. Windebank², Jeffrey Schwartz¹, Jean E. Schwarzbauer¹, ¹Princeton University, ²Mayo Clinic

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Modulation of macrophage phenotype by the extracellular matrix during wound healing

Wendy Liu, University of California Irvine

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Homozygous ATP6V1E1 and ATP6V1A mutations cause autosomal recessive cutis laxa

Fransiska Malfait¹, Tim Van Damme¹, Miski Mohamed², Tatjana Gardeitchik², Ariana Kariminejad³, Brecht Guillemin¹, Wouter Steyaert¹, Sunnie Wong⁴, Delfien Syx¹, Dirk Lefeber², Paul Coucke¹, Sanne van Kraaij², Daisy Dalloyaux², ¹Center for Medical Genetics, Ghent University Hospital, ²Departments of Laboratory Medicine, Pediatrics and Genetics, Radboudumc, Nijmegen, ³Kariminejad-Najmabadi Pathology & Genetics Center, ⁴Hayward Genetics Center, Tulane University School of Medicine

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3D Visualization of the Extracellular Matrix During Embryonic Development

Michael Drakopoulos, Sarah Calve, Purdue University

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Biglycan and Decorin Maybe the 'Glue' that Aids Palate Fusion

Kathy Svoboda, Isra Ibrahim, Maria Serrano, L. Bruno Ruest, Texas A&M College of Dentistry

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Embryo Implantation Triggers Dynamic Spatiotemporal Expression of the Basement Membrane Toolkit During Uterine Reprogramming

Celestial Jones-Paris¹, Sayan Paria², Taloa Berg², Juan Saus³, Gautam Bhawe⁴, B.C. Paria⁴, Billy G. Hudson⁴, ¹Vanderbilt University School of Medicine, ²Vanderbilt University Aspinaut, ³Valencia University Medical School, ⁴Vanderbilt University Medical Center

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Versican is required for primary hematopoiesis, yolk sac vasculogenesis, and retention of hyaluronan in the mouse embryo

Sumeda Nandadasa, Anna O'Donnell, Suneel Apte, Cleveland Clinic Lerner Research Institute

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Cross Talk Between Endothelial Cells and Breast Cancer Stem Cell Derived Exosomes

Sukhbir Kaur¹, Abdel G. Elkahoul², David. D. Roberts¹, ¹Center for Cancer Research, National Cancer Institute, National Institutes of Health, ²National Human Genome Research Institute, National Institutes of Health

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Mesenchymal stem cell-derived extracellular vesicles promote resolution of pulmonary fibrosis

Tzu-Pin Shentu¹, Simon Wong¹, Mateja Kernels-Kohan¹, Joy Chan¹, Celia Espinoza¹, Irene Gramaglia², Henri van der Heyde², James Hagoood, ¹University of California at San Diego, ²La Jolla Institute for Allergy and Immunology

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Extracellular Matrix Quantification of Common Organs being used as Tissue Engineered Scaffolds

Ryan Hill, Matthew Wither, Katelyn Chessler, Monika Dzieciatkowska, Kirk Hansen, University of Colorado-Denver

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Crystal structure of the active fragment of the metalloproteinase enhancer protein PCPE-1 in complex with the C-propeptide trimer of procollagen III

David Pulido¹, Urvashi Sharma², Natacha Mariano², Sandrine Vadon-Le Goff², Catherine Moali², Nushin Aghajari², David J.S. Hulmes², Erhard Hohenester¹, ¹Imperial College, London, ²Université Claude Bernard Lyon

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Crystal structure of the integrin-binding fragment of laminin-511

Mamoru Takizawa, Takao Arimori, Yu Kitago, Yukimasa Taniguchi, Junichi Takagi, Kiyotoshi Sekiguchi, Institute for Protein Research, Osaka University

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Thrombospondin-1 As A Novel Binding Partner of Fibrillar Collagen Cross-Linking sites and Regulator of Lysyl Oxidase Maturation: An Unsuspected Mechanism In Modulation of Myofibroblastic Differentiation?

Silvia Rosini¹, Dominique Bihan², Nicholas Pugh³, Richard W. Farndale², Josephine C. Adams¹, ¹School of Biochemistry, Faculty of Biomedical Sciences, University of Bristol, ²Department of Biochemistry, Downing Site, University of Cambridge, ³Department of Biomedical and Forensic Sciences, Faculty of Sciences and Technology, Anglia Ruskin University

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Unique post-translational features of type I collagen of periodontal ligament are conserved in mouse and human

David Hudson, Mikhail Garibov, Douglas Dixon, Tracy Popowicz, David Eyre, University of Washington

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Irene Raitman¹, Selwyn A. Williams², Benjamin Friedman¹, Jean E. Schwarzbauer¹, ¹Princeton University; ²Miami-Dade College

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Sarah Calve, Alexander Ocken, Kathryn Jacobson, Sawyer Kieffer, Tamara Kinzer-Ursem, *Purdue University*

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An Atlas of ECM Proteins Experimentally Observed in Proteomics Studies

Karl Clauser¹, Alexandra Naba², Huiming Ding², Charles Whittaker², Steven Carr¹, Richard Hynes², ¹Broad Institute of MIT and Harvard, ²Massachusetts Institute of Technology Koch Institute for Integrative Cancer Research

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Proteomic Changes in Breast Cancer Extracellular Matrix Accompanying Collagen Reorganization

Lucas Tomko¹, Ryan Hill², Kevin Eliceiri¹, Kirk Hansen², Patricia Keely¹, ¹University of Wisconsin-Madison, ²University of Colorado, Anschutz Medical Campus

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The Non Uniformity of the Periodontal Ligament

Gili Naveh, Bjorn Olsen, *Harvard University*

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The Secreted ADAMTS17 Protease Differentially Interacts with Fibrillin Molecules Compared to Microfibrils in the Extracellular Matrix

Dirk Hubmacher¹, Lauren W. Wang¹, Dieter P. Reinhardt², Suneel S. Apte¹, ¹Cleveland Clinic Lerner Research Institute, ²McGill University

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The importance of ubiquitination of CD47 in cellular signaling and trafficking

Rajdeep Banerjee, Sukhbir Kaur, Marlen Castro, D Roberts, *NCI/ National Institutes of Health*

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Characterization of an Inducible Collagen V-null Mouse Model

Mei Sun¹, Sheila M. Adams¹, Linda Z. Lin¹, Daniel Saez¹, Louis J. Soslowsky², David E. Birk¹, ¹University of South Florida, Morsani College of Medicine, ²McKay Orthopedic Research Laboratory, *University of Pennsylvania*

Signaling from the ECM: Cell Matrix Interactions and ECM Growth Factor Regulation

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Andrea Alford, Dylan Shearer, Anita Reddy, Nolan Bick, Hunter Linton, Allie Brodsky, *University of Michigan*

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Keith Choe, William Dodd, Lanlan Tang, Keon Wimberly, *University of Florida*

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Fibroblast secretion of TGF β 1 is executed by secretory autophagy

Julian Nüchel¹, Alexandra Zuk¹, Katrin Schönborn², Thomas Krieg², Gerhard Sengle¹, Beate Eckes², Markus Plomann¹, ¹University of Cologne, Institute for Biochemistry II, ²University of Cologne, Dermatology

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The Exploitation Of Electrostatic Interactions Between FibronectinIII 12-14 And 2-4 To Localize Anti-EMT Growth Factors To The Extracellular Matrix

Hilmi Humeid, Christopher Lemmon, *Virginia Commonwealth Univ.*

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Role Of Fibrillin-1 In Bone Remodeling

Kerstin Tiedemann¹, Muthu Lakshmi Muthu¹, Dieter P. Reinhardt², Svetlana V. Komarova¹, ¹McGill University, Shriners Hospital for Children, ²McGill University, Faculty of Dentistry

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Dwight Chambers¹, Leandro Moretti², Thomas Barker², ¹Georgia Institute of Technology/Emory University, ²University of Virginia

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Insight Into The Contribution of Biglycan and Decorin to Preterm Premature Rupture of Fetal Membranes

Lori Underhill, Geralyn Lambert-Messerlian, Beatrice Lechner, *Women and Infants Hospital and The Warren Alpert Medical School at Brown University*

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Detection of ADAMTS-mediated versican cleavage in embryogenesis and disease

Christopher Koch¹, Ndeye-Aicha Gueye², Suneel Apte¹, ¹Lerner Research Institute, *Cleveland Clinic*, ²Women's Health Clinic, *Cleveland Clinic*

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The Versican G1 Fragment and Serum-Derived Hyaluronan-Associated Proteins Interact and Form Complex in Granulation Tissue of Pressure Ulcers

Yusuke Murasawa¹, Hiroyuki Nakamura¹, Ken Watanabe¹, Koji Kimata², Masahiko Yoneda³, Zenzo Isogai¹, ¹National Center for Geriatrics and Gerontology, ²Research Complex for Medical Frontiers, ³Aichi Prefectural University, School of Nursing and Health

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Down-regulation of cell adhesion via rho-associated protein kinase (ROCK) pathway promotes tumor cell migration on laminin-511

Yamato Kikkawa, Nozomi Harashima, Kazuki Ikari, Shogo Fujii, Fumihiko Katagiri, Kentaro Hozumi, Motoyoshi Nomizu, Tokyo University of Pharmacy and Life Sciences

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Proprotein Convertase Processing Activates Peroxidase to Reinforce Collagen IV

Selene Colon, Gautam Bhawe, Vanderbilt University Medical Center

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Steven Funk, Jeff Miner, Washington University, St. Louis

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Investigating basement membrane repair in epidermal wound healing

William Ramos-Lewis, Andrea Page-McCaw, Vanderbilt University

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Proteolytic processing of LOXL2 by Proprotein Convertase is required for crosslinking of basement membrane collagen IV

Alberto J. Lopez-Jimenez¹, Catalina B. Kretschmar¹, Jazmin Escamilla², Roberto M. Vanacore¹, ¹Vanderbilt University Medical Center, ²Berea College

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Zebrafish mutants with quantitative changes of type I collagen display skeletal abnormalities and provide a better understanding of zebrafish type I collagen composition

Charlotte Gistelinc¹, Ronald Y. Kwon², MaryAnn Weis², Fransiska Malfait¹, Anne De Paepe¹, David R. Eyre², Andy Willaert¹, Paul J. Coucke¹, ¹Center for Medical Genetics Ghent, Ghent University, ²Department of Orthopaedics and Sports Medicine, University of Washington

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Conditional Targeting Of Shh In The Adult Mouse Nucleus Pulposus Causes Premature Intervertebral Disc Degeneration

Sarthak Mohanty, Paul Pricop, Elfie De Jesus, Robert Pinelli, Chitra Dahia, Hospital for Special Surgery

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Osteocalcin-driven metabolic changes in osteogenesis imperfecta

Iris Boraschi-diaz¹, Omar Al Rifai², Mathieu Ferron², Svetlana Komarova¹, ¹Faculty of Dentistry, McGill University, Montreal, ²Institut de Recherches Cliniques de Montréal

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Contrasting mutation-dependent responses to a potential therapeutic intervention for Col4a1-related myopathy

Cassandra Labelle-Dumais, Vera Schuitema, Kendall Hoff, Wenhui Gong, Peter Oishi, Douglas Gould, University of California San Francisco

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Altered NG2-type VI collagen colocalization in mandibular chondrocytes during degenerative joint disease

David Reed, Andrew Bertagna, Nageeb Hasan, Scott Bicknell, Diyora Amanova, Polina Gubareva, Shreya Thakkar, University of Illinois at Chicago

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Trypanosoma cruzi induces a fibrogenic response in primary human cardiomyocytes

Aniek Udoko¹, Candice Johnson², Andre Dykan³, Girish Rachakonda³, Fernando Villalta³, Sammed Mandape³, Maria de Fatima Lima³, Siddharth Pratap³, Pius Nde³, ¹The University of Tennessee Health Science Center, ²Food and Drug Administration, ³Meharry Medical College

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Toll Like Receptors and Endogenous Danger Ligands in Intervertebral Disc Degeneration

Emerson Krock, Brooke Currie, Michael Weber, Jean Ouellet, Derek Rosenzweig, Laura Stone, Lisbet Haglund, McGill University

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Analysis of ECM transition and renal dysfunction on the early stage of diabetic nephropathy

Airi Akatsuka¹, Yusuke Murasawa², Pi-Chao Wang¹, Graduate School of Life and Environmental Sciences, University of Tsukuba, ²National Center of Geriatrics and Gerontology

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Morgan Locy, University of Alabama at Birmingham

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HA mediated motility receptor aids in liver wound healing following acute carbon tetrachloride exposure in mice

Jennifer M. McCracken, Michele T. Pritchard, University of Kansas Medical Center

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Jacqueline Larouche¹, John Nicosia¹, Thomas Barker², ¹Georgia Institute of Technology, ²University of Virginia

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Fbln4a is a maternal gene regulating sonic hedgehog signaling and the fate of cardiovascular progenitors

Sandeep Khatri¹, Andrew Mayfield², Elaine Joseph³, Zsolt Urban¹, ¹Department of Human Genetics, University of Pittsburgh Graduate School of Public Health, ²Department of Pediatrics, Washington University School of Medicine, ³Massachusetts General Hospital, Boston, MA

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Administration of Recombinant Decorin Fusion Protein, CAR-DCN, Reduces Severity of Abdominal Aortic Aneurysm in Mice

Yue Shen¹, Cameron Oram², Stephanie Santacruz², Yulia Merkulova², Valerio Russo¹, Tatjana Bozin¹, Lubos Bohunek¹, Hongyan Zhao¹, Stephanie Sellers², Michael Seidman¹, Tero Järvinen³, Erkki Ruoslahti⁴, David Granville¹, ¹Centre for Heart Lung Innovation, St. Paul's Hospital, Department of Pathology and Laboratory Medicine, University of British Columbia, ²Department of Pathology and Laboratory Medicine, University of British Columbia, ³Department of Orthopaedic Surgery, University of Tampere and City Hospital, ⁴Vascular Mapping Laboratory, Center for Nanomedicine, Sanford-Burnham Medical Research Institute, University of California, Santa Barbara, and Cancer Research Center, Sanford-Burnham Medical Research Institute

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TGF β causes defective metabolic regulation during aortic valve disease

Varun Krishnamurthy, Andrew Stout, Qiaochu Zhang, K. Jane Grande-Allen, Rice University

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Laminin Downregulation Facilitates Cardiomyocyte Coupling In Situ to Increase Contractile Function and Lifespan

Ayla Sessions¹, Gaurav Kaushik¹, Sarah Parker², Koen Raedschelders², Jennifer Van Eyk², Adam Engler¹, ¹UC San Diego, ²Cedars-Sinai Heart Institute

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Differential effects of familial thoracic aortic aneurysm and dissection mutations on microfibril associated glycoprotein-2 secretion and localization to microfibrils

Ryan Daniels¹, Pauline Arnaud², Catherine Boileau², Alison Miyamoto¹, ¹California State University Fullerton, ²Département de Génétique Moléculaire, Centre National de Référence pour le Syndrome de Marfan et Apparentés, INSERM, Faculté Paris Diderot, AP-HP Hopital Bichat

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Characterization of Serological Biomarkers of Tissue Turnover in Women with Angina Pectoris and no Obstructive Coronary Artery Disease: the iPOWER study

Signe Holm Nielsen¹, Naja Dam Mygind², Marie Mide Michelsen³, Adam Pena⁴, Daria Frestad⁵, Elena Suhrs³, Federica Genovese¹, Morten A. Karsdal⁶, Niels Vejlstrup², Eva Prescott³, Jens Kastrup², ¹Fibrosis Biology and Biomarkers, Nordic Bioscience, Denmark and Disease Systems Immunology, Technical University of Denmark, ²Department of Cardiology, Rigshospitalet, University of Copenhagen, ³Department of Cardiology, Bispebjerg Hospital, University of Copenhagen, ⁴Department of Cardiology, Gentofte Hospital, University of Copenhagen, ⁵Department of Cardiology, Hvidovre Hospital, University of Copenhagen, ⁶Nordic Bioscience, Denmark

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Macrophages are the Source of MMP-9 generated Osteopontin Fragment in the Post-Myocardial Infarction Left Ventricle

Signe Holm Nielsen¹, Elizabeth R. Flynn², Merry L. Lindsey², ¹Fibrosis Biology and Biomarkers, Nordic Bioscience, Denmark and Disease Systems Immunology, Technical University of Denmark, ²Mississippi Center for Heart Research, Physiology and Biophysics, University of Mississippi Medical Center

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Contribution of Elastin to Cardiovascular Development in Zebrafish

Michelle Zorrilla, University of Pittsburgh, Graduate School of Public Health

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The Role of DDR in Collagen Remodeling in Abdominal Aortic Aneurysm

David Yeung¹, Jeffrey Tonniges¹, Benjamin Albert¹, A Mahajan, Edward Calomeni¹, Chetan Hans², Isac Kunnath¹, Michael Go¹, Gunjan Agarwal¹, ¹Ohio State University, ²University of Missouri

Integrins and Novel Receptor Systems

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Noncanonical NF-KB signaling enhances invasion, pseudopodia formation and ITGA11 expression in glioma

Camille Duran, Dong Lee, Raquel Sitcheran, Kayla Bayless, Texas A&M Health Science Center

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Poster Session 2

Conformational Changes to Fibronectin's Integrin Binding Domain Effects on Myofibroblast Differentiation

Haylee Bachman¹, Gulcin Arslan Azizoglu², Thomas Barker³, ¹Georgia Institute of Technology, ²Ege University, ³Univ. of Virginia

Poster Program

Proteases and Their Inhibitors

Abstract: 125

Poster Session 1

Cathepsin S contributes to the proteolytic responses induced by cigarette smoke exposure in human airway epithelium

Pierre-Marie Andrault¹, Andrea C Schamberger², Justine Renault¹, Ahlame Saidi¹, Agnès Petit¹, Oliver Eickelberg², Yves Courty¹, Gilles Lalmanach¹, Fabien Lecaille¹, ¹University François Rabelais de Tours, CEPR, ²Comprehensive Pneumology Center, Institute of Lung Biology and Disease

Abstract: 126

Poster Session 2

ADAM17 activation influences MMP-9 expression via EMMPRIN

Marion K. Gordon¹, Andrea DeSantis-Rodrigues¹, Yokechen Chang¹, Rita A. Hahn¹, Peihong Zhou¹, Ned D. Heindel², Donald R. Gerecke¹, Kathy K.K.H. Svoboda³, ¹Pharmacology and Toxicology, Rutgers University, ²Lehigh University, ³Biomedical Sciences, Baylor College of Dentistry

Mechanobiology

Abstract: 127

Poster Session 1

The influence of perlecan on the mechanics of cells and extracellular matrix in developing cartilage

Xin Xu¹, Zhiyu Li², Yue Leng², Corey Neu¹, Sarah Calve², ¹University of Colorado, ²Purdue University

Tumor Microenvironment

Abstract: 128

Poster Session 2

Laminin alpha 5 in squamous cell carcinoma invasion, angiogenesis and progression

Jie Li, Yanping Zhang, Tace Steel, Tengjiao Cui, Mina Zarei, George Elgart, Keyvan Nouri, University of Miami Miller School of Medicine

Abstract: 129

Poster Session 1

Streptococcus gallolyticus subsp. gallolyticus promotes colorectal tumor development: Role of ECM-bacteria interaction

Ritesh Kumar, Jennifer Herold, Yi Xu, Center for Infectious and Inflammatory Diseases, Institute of Biosciences and Technology, Texas A&M Health Science Center

Abstract: 130

Poster Session 2

Effects of the tumor microenvironment on cancer immunotherapy

Dorota Ewa Kuczek, Daniel Hargbøl Madsen, Center for Cancer Immune Therapy (CCIT), Herlev Hospital

ECM in Wound Healing and Skin Diseases

Abstract: 131

Poster Session 1

Topical Inhibition of the Serine Protease Granzyme B Improves Burn Wound Healing in Diabetic Mice

Yue Shen¹, Cameron Oram², Stephanie Santacruz², Yulia Merkulova², Valerio Russo¹, Tatjana Bozin¹, Hongyan Zhao¹, David Granville¹, ¹Centre for Heart Lung Innovation, St. Paul's Hospital, ²Department of Pathology and Laboratory Medicine, University of British Columbia

Abstract: 132

Poster Session 2

Evolution of Antibody Probe for Detection of Fibronectin Conformational Changes

Leandro Moretti¹, Lizhi Cao², Anton Bryksin³, Thomas Barker¹, ¹University of Virginia, ²Biogen Idec, ³Georgia Institute of Technology

ECM and Metabolic Disease

Abstract: 134

Poster Session 2

Macrophage-Derived TGF β 1 and the ECM Protein BIGH3 Promotes Diabetic Complications in Ocular and Renal Systems

Robert Moritz¹, Andrew Tsin, Federico Gonzalez-Fernandez², Reto Asmis³, Richard LeBaron¹, ¹University of Texas at San Antonio, ²State University of New York at Buffalo, ³University of Texas Health Science Center at San Antonio

ECM in Tissue Engineering

Abstract: 135

Poster Session 1

Brain-derived extracellular matrix and human neural stem cells in 3D in vitro cultures

Disha Sood, Dana Cairns, Lauren D. Black, David L. Kaplan, Tufts University

Abstract: 136

Poster Session 2

Enhancing Collagen Accumulation by Bone Cells Using a Macromolecular Crowding Approach

Abdolrasol Rahimi, Andrew Martin, Natasha Case, Saint Louis University

Novel Mechanisms of ECM Protein Regulation

Abstract: 137

Poster Session 1

Estrogen Antagonizes Disc Cell Lubricin (Proteoglycan-4) Gene Expression In The Temporomandibular Joint

Louis Perez, Jennifer Schulze-McDaniel, Richard LeBaron, University of Texas San Antonio

Abstract: 138

Poster Session 2

Antisense reduction of mutant COMP resolves growth plate chondrocyte pathology

Jacqueline Hecht, University of Texas Health Science Center, McGovern Medical School

Abstract: 139

Poster Session 1

Mutant COMP elevates miR223 altering ossification

Francoise Coustry, Karen L. Posey, Mohammad Hossain, Frankie Chiu, Jacqueline T. Hecht, McGovern Medical School University of Texas Health

Late Breaking Poster Presentations

Abstract: 140

Poster Session 2

Palate Development and Fusion are regulated by Cell-Cell and Cell-ECM Signals

Kathy K. H. Svoboda, M. Douglas Benson, L-Bruno Ruest, Texas A&M College of Dentistry

Poster Program

Abstract: 141

Poster Session 1

Pleiotropic and cell type-specific functions of fibronectin in blood vessel development

Sophie Astrof, *Thomas Jefferson University*

Abstract: 142

Poster Session 2

The role of CCN2 in melanoma metastasis

James Hutchenreuther¹, Krista Vincent², David Carter¹, Lynne Postovit², Andrew Leask¹, ¹*University of Western Ontario*, ²*University of Alberta*

Abstract: 143

Poster Session 1

Distinct biological events generated by ECM proteolysis by two homologous collagenases

Inna Solomonov¹, Eldar Zehorai¹, Dalit Talmi-Frank¹, Sharon Wolf¹, Alla Shainskaya¹, Alina Zhuravlev¹, Elena Kartvelishvili¹, Rob Visse², Yishai Levin¹, Nir Kampf¹, Diego Jaitin¹, Eyal David¹, Ido Amit¹, ¹*Weizmann Institute of Science*, ²*University of Oxford*

Abstract: 144

Poster Session 2

Ziploc-ing the structure 2.0: Rough endoplasmic reticulum resident PPIases show differences in substrate specificity of post translationally modified proline residues

Yoshihiro Ishikawa, Hans Peter Bachinger, *Shriners Hospital for Children Portland*

Abstract: 145

Poster Session 1

In vitro evidence for a role of the phosphatidylinositol-5-phosphatase SHIP2 in matrix mineralization

Anais Fradet, Jamie Fitzgerald, *Bone and Joint Center, Department of Orthopedic Surgery, Henry Ford Hospital*

Abstract: 146

Poster Session 2

Alternative splicing of MAGP2 produces a non-glycosylated variant protein that is poorly soluble in cell culture medium but still present on extracellular microfibrils

Alison Miyamoto¹, Andrew Yale², Ryan Daniels¹, Cherie Petersen¹, ¹*California State University Fullerton*, ²*University of California Irvine*

Abstract: 147

Poster Session 1

Define the endotrophin, a soluble cleavage product of collagen VI $\alpha 3$ chain, -mediated signaling pathways in adipocyte differentiation

Changhu Lee¹, Min Kim², Tae Young Ryu¹, Jiyoung Park¹, ¹*Ulsan National Institute of Science and Technology*, ²*Inje University*

Abstract: 148

Poster Session 2

Targeting Collagen Degradation to Treat Human Fibrotic Disease

Michael Podolsky, Arnold Ha, Kamran Atabai, *University of California, San Francisco*

Abstract: 149

Poster Session 1

The ins and outs of the ER chaperone calreticulin, in extracellular matrix and α -5 integrin induction: an essential component of tissue regeneration and wound healing

Unnati Pandya¹, Julien Daubriac¹, Cougar Jaramillo¹, Matthew Grieves¹, Fares Samra¹, Chinaza Egbuta¹, Ana Tellechea¹, Marek Michalak², Leslie Gold¹, ¹*New York University School of Medicine*, ²*University of Alberta*

Abstract: 150

Poster Session 2

Collagen XII regulates cellular compartmentalization in tendon that mediates initiation of fibrillogenesis

Yayoi Izu¹, Qingmei Yao², Shiela Adams², Thomas Adams², Brianne Connizzo³, David Beason³, Louis Soslowky³, Manuel Koch⁴, David Birk², ¹*Chiba Institute of Science*, ²*University of South Florida*, ³*University of Pennsylvania*, ⁴*University of Cologne*

Abstract: 151

Poster Session 1

Competitive AlphaScreen [®] Assay for Hyaluronan Detection

Xiayun Huang, Mary Cowman, *New York University*

Abstract: 152

Poster Session 2

Pathological extracellular matrix suppresses microRNA-29 expression by deregulating Dicer1 in Idiopathic Pulmonary Fibrosis

Jeremy Herrera, Craig Henke, Peter Bitterman, *University of Minnesota*

Abstract: 153

Poster Session 1

Downregulation of calreticulin expression in the diabetic kidney reduces renal fibrosis and proteinuria

Ailing Lu, Manuel Antonio Pallero, Anton Borovjagin, Kurt Zimmerman, Paul Sanders, Joanne Murphy-Ullrich, *University of Alabama at Birmingham*

Abstract: 154

Poster Session 2

Inhibition of the Unfolded Protein Response Mechanism Prevents Cardiac Fibrosis

Jody Groenendyk¹, Dukgyu Lee², Joanna Jung¹, Jason Dyck¹, Gary Lopaschuk¹, Luis Agellon², Marek Michalak¹, ¹*University of Alberta*, ²*McGill University*

Abstract: 155

Poster Session 1

Association of Osteopontin and MMP 9 with VEGF Expression/ Secretion and Angiogenesis in Prostate Cancer Cells

Meenakshi Chellaiah, Aditi Gupta, Sunipa Majumdar, Cindy Zhou, *University of Maryland School of Dentistry*

Abstract: 156

Poster Session 2

Identification of extracellular granzyme B substrates in neuroinflammation

Cameron Oram, Antoine Dufour, Nestor Solis, Valerio Russo, Christopher Overall, David Granville, *University of British Columbia*

Poster Program

Abstract: 157

Poster Session 1

Exploring and exploiting the ECM for diagnosing and treating cancers

Alexandra Naba¹, Karl R. Clauser², Kenneth K. Tanabe³, Steven A. Carr², Richard O. Hynes¹, ¹Koch Institute for Integrative Cancer Research at MIT, ²Proteomics Platform, Broad Institute of MIT and Harvard, ³Massachusetts General Hospital, Cancer Center

Abstract: 158

Poster Session 2

CD47 regulation of the tumor immune response

Elizabeth Lessey-Morillon, David Roberts, NCI

Abstract: 159

Poster Session 1

Development of diagnostic and prognostic extracellular matrix signatures for human colon carcinoma

Steffen Rickelt¹, Noor Jailkhani¹, Alexandra Naba¹, Kenneth K. Tanabe², Namrata Setia³, Gregory Y. Lauwers³, Roderick Bronson⁴, Richard O. Hynes¹, ¹Howard Hughes Medical Institute, David H. Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology, ²Massachusetts General Hospital (MGH) Cancer Center, ³Massachusetts General Hospital, ⁴Rodent Histopathology Core, Harvard Medical School

Abstract: 160

Poster Session 2

Stiff extracellular matrix induces prosaposin secretion in mesenchymal stem cells to promote survival of mammary carcinoma cells

Seiichiro Ishihara, David Inman, Wan-Ju Li, Suzanne Ponik, Patricia Keely, University of Wisconsin-Madison

Abstract: 161

Poster Session 1

Adipose VEGF-A confers higher efficacy of fat implantation through reducing fibrosis and inflammation

Min Kim¹, Jiyoung Park², Kai Sun³, Philipp Scherer⁴, Jin Han¹, ¹College of Medicine, Inje University, ²Ulsan National Institute of Science and Technology, ³Center For Metabolic and Degenerative Diseases, The Brown Foundation Institute of Molecular Medicine University of Texas Health Science Center at Houston, ⁴Touchstone Diabetes Center, Departments of Internal Medicine, University of Texas Southwestern Medical Center

Abstract: 162

Poster Session 2

Effectiveness of mesenchymal cell-containing scaffolds in the regeneration of a critical mandibular defect

Alex Coca¹, Natalio García-Honduvilla¹, Sergio Ramírez-Varela², Juan Peña³, María V Cabaña³, Jesús Román³, Miguel A Ortega¹, Robert Mecham⁴, Julia Bujan¹, ¹University of Alcalá, Alcalá de Henares, ²University Center of Defense of Madrid, ³Complutum University, ⁴Washington University School of Medicine

Abstract: 163

Poster Session 1

Migration-Permissive Hydrogel Matrices Enhance the Organization of Primary Salivary Human Stem/Progenitor Cells

Mariane Martinez¹, Swati Pradhan-Bhatt², Robert L. Witt², Mary C. Farach-Carson¹, Daniel A. Harrington¹, ¹Rice University, ²University of Delaware

Abstract: 164

Poster Session 2

Decellularized intestinal extracellular matrix scaffold for studying small intestinal stem cells

Sharif Iqbal, Nalle Pentinmikko, Simon Andersson, Johanna Englund, Pekka Katajisto, Institute of Biotechnology, University of Helsinki

Abstract: 165

Poster Session 1

Extracellular control of growth and form in the fruit fly wing

Vanessa de Oliveira Carlos, Alf Honigsmann, Suzanne Eaton, Max Planck Institute of Molecular Cell Biology and Genetics

Abstract: 166

Poster Session 2

Syndecan-2 enhances E-cadherin shedding and fibroblast-like morphological changes by inducing MMP-7 expression in colon cancer cells

Bohee Jang, Eok-Soo OH, Ewha Womans University

Abstract: 167

Poster Session 1

Elongated Structure of the BMP Regulator BMPER Works in Concert with Twisted Gastrulation to Inhibit BMP Signaling

Michael P. Lockhart-Cairns¹, Anne Barrett¹, Alexandra Zuk², Katsuaki Inoue³, Gerhard Sengle², Robert Rambo³, Clair Baldock¹, ¹University of Manchester, ²University of Cologne, ³Diamond Light Source

Abstract: 168

Poster Session 2

Using a Computational Model of Cardiac Fibroblast Signaling to Predict Drugs Against Pathologic Remodeling

Angela Zeigler, Jeffrey Saucerman, University of Virginia

Abstract: 169

Poster Session 1

The consequences of hypoxia and inflammation in the remodelling of extracellular matrix in patients with incompetent valves: the relationship with aging

Miguel A Ortega¹, Alberto Cifuentes¹, Ángel Asúnsolo², Eva Del Castillo³, Javier Leal³, Natalio García-Honduvilla¹, Robert P Mecham⁴, Julia Bujan¹, ¹Departments of Medicine and Medical Specialities, University of Alcalá Networking Biomedical Research Center on Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), ²Department of Surgery, Medical and Social Sciences, University of Alcalá, ³Departments of Medicine and Medical Specialities, University of Alcalá, ⁴International Ruber Hospital, ⁴Washington University School of Medicine

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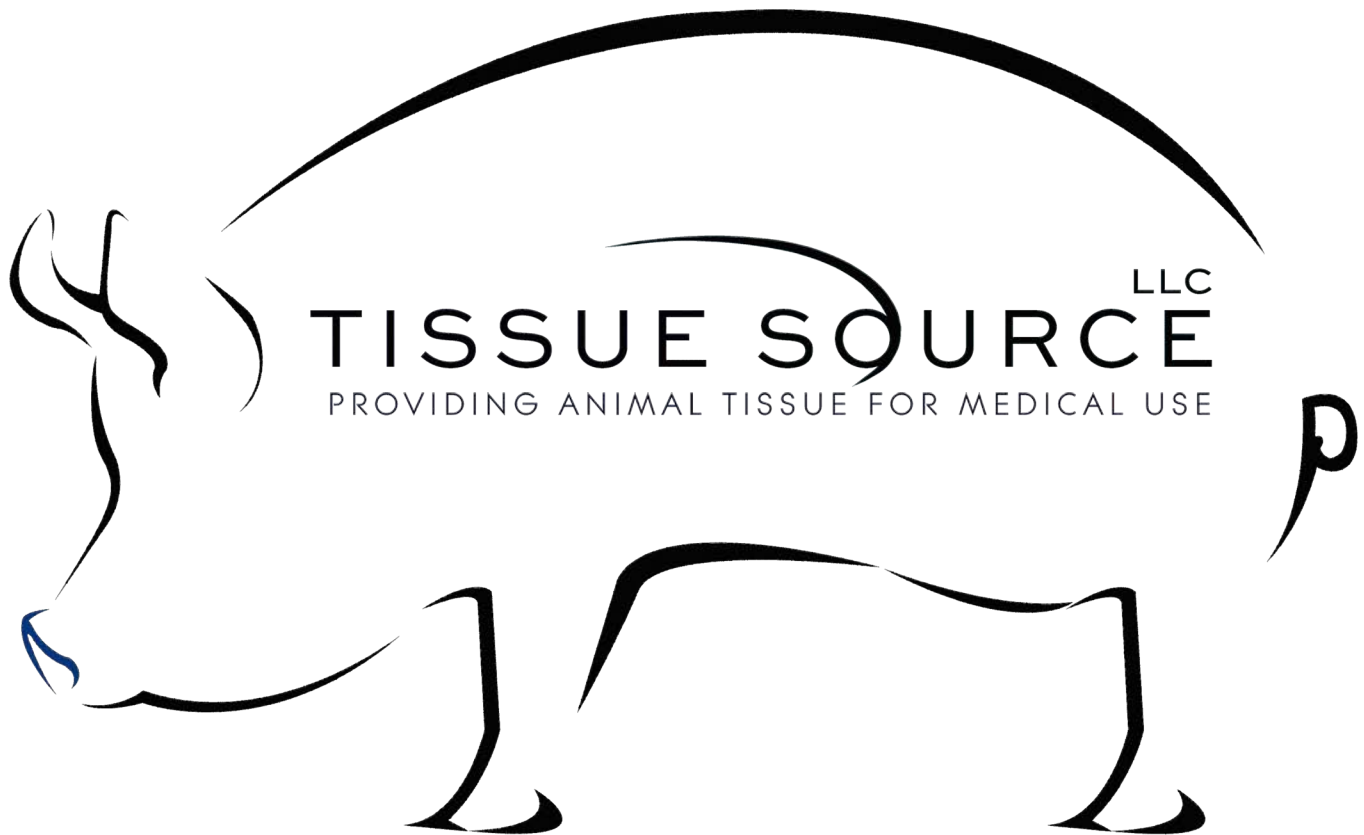
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CELEBRATING THE LIFE & MEMORY OF OUR MATRIX BIOLOGY COLLEAGUES

ASMB wishes to recognize contributions of colleagues who dedicated their careers to matrix biology and have passed away over the last two years.



Steve Krane

1927 – 2015
Massachusetts
General Hospital



Endre A. Balazs

1920 – 2015
Columbia-Presbyterian
Medical Center



Ruth Chiquet-Ehrismann

1954 – 2015
Friedrich Miescher
Institute in Basel



Mark E. Lauer

1973 – 2015
Lerner Research Institute,
Cleveland Clinic Foundation

AGENDA AT A GLANCE

Sunday, November 13th

1:00-2:30 pm

Guest Symposium I: Tissue Engineering Regenerative Medicine International Society-Americas (TERMIS-AM)
Location: Grand Bay North

SIS 1: Trainee Led Session: Extracellular Matrix Dynamics in Development and Disease
Location: Grand Bay South

SIS2: Trainee Led Session: Cilia, Inflammation, and Fibrosis in the Kidney and Liver
Location: Williams/Demens

2:30-2:45 pm

Break
Location: Lobby II & III

2:45-4:15 pm

Guest Symposium II: CCN Society
Location: Grand Bay North

SIS 3: Trainee Led Session: ECM in Vascular Development
Location: Grand Bay South

SIS 4: Trainee Led Session: Unveiling the Mechanisms of Novel ECM-Modifying Proteases: Focus on Substrates
Location: Williams/Demens

4:15-4:30 pm

Break
Location: Lobby II & III

4:30-6:00 pm

President's Welcome and ASMB Award Talks
Location: Grand Bay Ballroom

6:00-7:15 pm

Opening Reception
Location: Lobby II & III

7:15-8:00 pm

Keynote Lecture by Judith Campisi
Location: Grand Bay Ballroom

Monday, November 14th

7:15-8:30 am

Career Mentoring Breakfast
(Pre-registration Required)
Discussion begins at 7:30am
Location: Bayboro

7:30-8:30 am

Breakfast
Location: Lobby II & III

8:30-10:00 am

Plenary I: Linking Metabolic Disease with the ECM Microenvironment
Location: Grand Bay Ballroom

10:00-10:30 am

Coffee Break
Location: Lobby II & III

10:30-12:00 pm

Plenary II: ECM Dysfunction in Aging and Fibrosis
Location: Grand Bay Ballroom

12:00-12:30 pm

ASMB Business Meeting
Location: Grand Bay Ballroom

12:30-2:30 pm

Poster Session I - Lunch
Location: St. Petersburg Ballroom

2:30-4:00 pm

Concurrent A: ECM Proteomics, Structure, Assembly, and Cross-linking
Location: Grand Bay North

Concurrent B: Signaling from the ECM: Cell Matrix Interactions and ECM Growth Factor Regulation
Location: Grand Bay South

Concurrent C: Proteoglycans and Glycosylation
Location: Williams/Demens

4:00-4:30 pm

Coffee Break
Location: Lobby II & III

4:30-6:00 pm

Concurrent D: Basement Membranes
Location: Grand Bay North

Concurrent E: ECM in Musculoskeletal Diseases
Location: Grand Bay South

Concurrent F: ECM: Immunity, Inflammation, and Infection
Location: Williams/Demens

Tuesday, November 15th

7:15-8:30 am

Women Mentoring Women Breakfast
(Pre-registration Required)
Discussion begins at 7:30am
Location: Bayboro

7:30-8:30 am

Breakfast
Location: Lobby II & III

8:30-10:00 am

Plenary III: ECM in Regenerative Medicine and the Stem Cell Niche
*Features the ISMB Distinguished Investigator Awardee
Location: Grand Bay Ballroom

10:00-10:30 am

Coffee Break
Location: Lobby II & III

10:30-12:00 pm

Plenary IV: Novel Mechanisms of ECM Regulation
Location: Grand Bay Ballroom

12:00-2:00 pm

Poster Session II - Lunch
Location: St. Petersburg Ballroom

2:00-3:30 pm

Concurrent G: ECM in Fibrosis: Liver, Lung, Kidney
Location: Grand Bay North

Concurrent H: ECM in Cardiovascular Disease
Location: Grand Bay South

Concurrent I: Integrins and Novel Receptor Systems
Location: Williams/Demens

3:30-4:00 pm

Coffee Break
Location: Lobby II & III

4:00-5:30 pm

Concurrent J: Proteases and Their Inhibitors
Location: Grand Bay North

Concurrent K: Mechanobiology
Location: Grand Bay South

Concurrent L: Tumor Microenvironment
Location: Williams/Demens

7:00-11:00 pm

Banquet – Dali Museum
(Advanced ticket purchase required.)

Wednesday, November 16th

8:00-9:00 am

Breakfast
Location: Lobby II & III

9:00-11:00 am

Plenary V: Therapeutics to Regulate ECM in Diseases
Location: Grand Bay Ballroom

11:00-11:30 am

Coffee Break
Location: Lobby II & III

11:30am -1:00 pm

Concurrent M: ECM in Wound Healing and Skin Diseases
Location: Grand Bay North

Concurrent N: ECM in Morphogenesis
Location: Grand Bay South

Concurrent O: ECM in Exosomes: Intercellular Communication
Location: Williams/Demens