POSTER SET-UP DETAILS:
Poster Set-up: Monday, October 23
(beginning at 7:30 am)

Poster Removal: Wednesday, October 25
(beginning at 12:30 pm)

All posters will remain on display throughout the entire meeting. ***The poster number is the poster board number.***

POSTER SESSIONS:
Session 1: Monday, October 23
12:00-2:00pm
ODD number posters present

Session 2: Tuesday, October 24
12:00-2:00pm
EVEN number posters present

The poster number determines your session presentation day (ODD/EVEN), not the abstract number. **Please affix your poster to the board which corresponds with your poster number**.

Posters

Basement Membranes

Poster 1 - Abstract 071
Cryo-EM Reveals the Molecular Basis of Laminin Polymerization and LN-lamininopathies
Arkadiusz W. Kulczyk[1*], Karen K. McKee[2], Ximo Zhang[3], Iwona Bizukojc[3,4], Ying Q. Yu[3], and Peter D. Yurchenco[2]
[1]*Institute for Quantitative Biomedicine, Department of Biochemistry and Microbiology, Rutgers University, Piscataway, NJ;* [2]*Department of Pathology and Laboratory Medicine, Rutgers University - Robert Wood Johnson Medical School, Piscataway, NJ;* [3]*Waters Corporation, Milford, MA;* [4]*Cryo-EMcorp, Bridgewater, NJ*

Poster 2 - Abstract 126
Laminin α5_CD239_Spectrin Is a Compensatory Linkage between Basement Membrane and Cytoskeleton in Skeletal Muscle Fibers
Yamato Kikkawa[1], Masumi Matsunuma[1], Ryuji Kan[1], Yuji Yamada[1], Keisuke Hamada[1], Motoyoshi Nomizu[1], Yoichi Negishi[2], Shushi Nagamori[3], Tatsushi Toda[4], Minoru Tanaka[5], Motoi Kanagawa[6]
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Poster 3 - Abstract 127
Factors Involved in the Biosynthesis of Type IV Collagen (α1α1α2) in CHO cells
Kazunori Mizuno and Tomonori Ueno
Nippi Research Institute of Biomatrix, Ibaraki, Japan

Poster 4 - Abstract 128
Strategy for Making Functional Collagen Fragments: A Window into Collagen Biology and Therapy
Sergei P. Boudko[1,2,3], Elizabeth H. Konopka[4], Woojin Kim[4], Yuki Taga[5], Kazunori Mizuno[5], Timothy A. Springer[6], Billy G. Hudson[1,2,3,7-10], Terence I. Moy[4], and Fu-Yang Lin[4]
[1]*Department of Medicine, Division of Nephrology and Hypertension, Vanderbilt University Medical Center, Nashville, TN;* [2]*Center for Matrix Biology, Vanderbilt University Medical Center, Nashville, TN;* [3]*Department of Biochemistry, Vanderbilt University, Nashville, TN;* [4]*Morphic Therapeutics, Inc., Waltham, MA;* [5]*Nippi Research Institute of Biomatrix, Toride, Ibaraki, Japan;* [6]*Department of Biological Chemistry and Molecular Pharmacology, Program in Cellular and Molecular Medicine, Boston Children's Hospital, Harvard Medical School, Boston, MA;* [7]*Department of Pathology, Microbiology, and Immunology, Vanderbilt University Medical Center, Nashville, TN;* [8]*Department of Cell and Developmental Biology, Vanderbilt University*

Medical Center, Nashville, TN; [9]Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center, Nashville, TN; [10]Vanderbilt Institute of Chemical Biology, Vanderbilt University, Nashville, TN

Poster 5 - Abstract 129
Compression Regulates Molecular Permeability of the Glomerular Basement Membrane
Nicholas Ferrell and Dan Wang,
Department of Internal Medicine, Division of Nephrology, Ohio State University Wexner Medical Center, Columbus, OH

Poster 6 - Abstract 130
Using Zebrafish as a Novel Model for COL4A1-associated Cerebral Small Vessel Disease
Daisy Flatman, Siobhan Crilly, Richard Naylor, Emmanuel Pinteaux, Stuart Allan, Rachel Lennon, and Paul Kasher
Division of Neuroscience, University of Manchester, Manchester, United Kingdom

Poster 7 - Abstract 131
Determining the Collagen IV Biosynthetic Interactome and the Differential Roles of Collagen Modifying Enzymes
Yoshihiro Ishikawa[1], Seán Gorman[1], Carlie Abdala[1], Yuki Taga[2], Mohamed Rafi[3], Kazunori Mizuno[2], Cassandre Labelle-Dumais[1], Roberto M. Vanacore[3], and Douglas B. Gould[1,4]
[1]Department of Ophthalmology, University of California San Francisco, School of Medicine, CA; [2]Nippi Research Institute of Biomatrix, Ibaraki, Japan; [3]Division of Nephrology and Hypertension, Vanderbilt University Medical Center, Nashville, TN; [4]Department Anatomy, Cardiovascular Research Institute, Bakar Aging Research Institute, and Institute for Human Genetics, University of California, San Francisco, CA

Poster 8 - Abstract 132
The Laminin β2 Chain Regulates the Selective Routing of Retinal Ganglion Cell Axons
Reyna I. Martínez-De Luna[1], Madeline Turo[1], and Adam Robinson[1]
[1]Department of Ophthalmology & Visual Sciences, Upstate Medical University, Syracuse, NY; [2] Pennsylvania College of Optometry - Salus University

Poster 9 - Abstract 133
Proteomics Analysis of the Pkd1nl/nl Mouse at P28 Identifies Novel Insights into Matrix Pathology Associated with ADPKD
Richard W. Naylor[1], Ambra Pozzi[2], and Rachel Lennon[1]
[1]University of Manchester, Manchester, United Kingdom; [2]Vanderbilt University, Nashville, TN

Cancer Pathobiology – Poster Session

Poster 10 - Abstract 015
A New Journey for Cancer Research – Targeting Glycosylation: Glysite™ Scout Glycan Screening Kits for Comprehensive Detection of Glycan Expression
Shuhui Chen, August Estabrook, and Erika Leonard
Vector Labs, Newark, CA

Poster 11 - Abstract 020
Modeling the Influence of Stroma in Ovarian Cancer Drug Resistance in a Microvascularized Multiniche Tumor-On-a-Chip
Simona Plesselova[1], and Pilar de la Puente[1,2]
[1]Cancer Biology and Immunotherapies Group, Sanford Research, Sioux Falls, SD; [2]Department of Obstetrics and Gynecology, University of South Dakota Sanford School of Medicine, Sioux Falls, SD

Poster 12 - Abstract 029
Fluorescence Resonance Energy Transfer Based Molecular Beacon Probe for *in situ* Hybridization
Narantsog Choijookhuu[1], Yasuaki Shibata[2], Takumi Ishizuka[1], Yan Xu[3], Takehiko Koji[2], and Yoshitaka Hishikawa[1]
[1]Department of Anatomy, Histochemistry and Cell Biology, Faculty of Medicine, University of Miyazaki, Kiyotake, Miyazaki, Japan; [2]Department of Histology and Cell Biology, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan; [3]Division of Chemistry, Department of Medical Sciences, Faculty of Medicine, University of Miyazaki, Kiyotake, Miyazaki, Japan

Poster 13 - Abstract 134
PEGylated Functional Upstream Domain (PEG-FUD): An Anti-cancer Therapy for Breast Cancer
Metti K. Gari[1], Hye Jin Lee[2], David R. Inman[1], Brian M. Burkel[1], Glen S. Kwon[2], and Suzanne M. Ponik[1]
[1]*Department of Cell and Regenerative Biology, University of Wisconsin - Madison, Madison, WI;* [2]*Pharmaceutical Sciences Division, School of Pharmacy, University of Wisconsin - Madison, Madison, WI*

Poster 14 - Abstract 135
Effects of Biological Sex on Tumor-Mediated Muscle Dysfunction and Wasting
Traci L. Parry, Louisa Tichy, Jason T. Brantley, Zachary Swan, and George Blackburn
Department of Kinesiology, University of North Carolina Greensboro, Greensboro, NC

Poster 15 - Abstract 136
Tumor Bearing Results in Metabolic Dysfunction and Skeletal Muscle Wasting in Apc(min/+) Mice
Louisa Tichy and Traci L. Parry
Department of Kinesiology, The University of North Carolina at Greensboro, Greensboro, NC

Poster 16 - Abstract 137
Identification of the Roles of ADAMTS12 Secreted by Stellate Cells during Tumor Progression in Cholangiocarcinoma
Esther Arpigny[1], Fátima Manzano Núñez[2], Vincent Legagneux[3], Nathalie Théret[3], Frédéric Lemaigre[2], and Alain Colige[1]
[1]*Laboratory of Connective Tissues Biology, GIGA-Cancer, University of Liège, Liège, Belgium;* [2]*Liver and Pancreas Differentiation Unit, de Duve Institute, Université Catholique de Louvain, Brussels, Belgium;* [3]*INSERM, EHESP, Irset (Institut de Recherche en santé, Environnement et Travail), University of Rennes, France*

Poster 17 - Abstract 138
Dissecting the Role of miR-146a in Metabolic Dysfunction-Associated Steatohepatitis and Hepatocellular Carcinoma
Chad VanSant-Webb, Morgan Nelson, Rich Smith, Ryan O'Connell, and Kimberley Evason
Department of Pathology, Huntsman Cancer Institute, University of Utah, Salt Lake City, UT

Poster 18 - Abstract 139
Gp78 Expression Activates Breast Cancer Tumor Growth Through Immunogenetic, Lipogenetic, and Endoplasmic Reticulum Stress Relief Pathways
Joy R. Winfield, Myles Ellis, and Kevin L. Gardner
Department of Pathology and Cell Biology, Columbia University, New York, NY

Poster 19 - Abstract 140
P120 Expression Mitigates Kaiso Expression-Associated Survival Risk in Breast Cancer Patients of African Ancestry
Joy R. Winfield, Myles Ellis, and Kevin L. Gardner
Department of Pathology and Cell Biology, Columbia University, New York, NY

Poster 20 - Abstract 141
Inhibiting Melanoma-Associated Axonogenesis Using Semaphorin-3F
Amara Nnawuchi, Annika Kamath, Abdulrahman Nakshabandi, Yao Gao, and Diane R. Bielenberg
Vascular Biology Program, Boston Children's Hospital, Boston, MA

Poster 21 - Abstract 142
Exploring the Role of Obesity-Induced Extracellular Matrix Remodeling in the Progression of Breast Cancer
Malika A. Sekhri, Stevi Johnson-Murguia, Queen M. Pierre, Michael Kinter, Rebecca L. Scalzo, Bethany N. Hannafon, and Elizabeth A. Wellberg
Department of Pathology, University of Oklahoma Health Science Center, Oklahoma City, OK

Poster 22 - Abstract 143

Novel Multianalyte Biomarker Panel for Early Detection of Ovarian Cancer Leveraging the Matrisome

Amrita Bhagia[1,2], Megan Jorgensen[1,2], Maria Bell[3], and Pilar de la Puente[1,3,4]

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Poster 23 - Abstract 144

Unraveling the Molecular Basis of SNED1-Mediated Cell Adhesion

Dharma Pally[1], Nandini Kapoor[1], and Alexandra Naba[1,2]

[1]*Department of Physiology and Biophysics, University of Illinois Chicago, Chicago, IL;* [2]*University of Illinois Cancer Center, Chicago, IL*

Poster 24 - Abstract 145

TIMP2 as an Anti-tumor Homeostatic Regulator in a Lewis Lung Carcinoma Mouse Model

Yueqin Liu, David Peeney, Sarvesh Kumar, Sandra M. Jensen, Alex Kuznetsov, Dillion Richardson, Sadeechya Gurung, Carolyn Lazaroff, Sasha Coates-Park, Joshua Rich, and William Stetler-Stevenson

Laboratory of Pathology, National Cancer Institute, National Institutes of Health, Bethesda, MD

Poster 25 - Abstract 146

Integrin α3β1 Regulates *Mmp9* mRNA Alternative Polyadenylation in Skin Tumors and Wounds

Giesse Albeche Duarte[1], Whitney Longmate[2], Wu, Lei Wu[2], and C. Michael DiPersio [1,2]

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Poster 26 - Abstract 147

β-catenin Negatively Influences B Cell Recruitment to the β-catenin-mutated Hepatocellular Carcinoma Microenvironment Correlating to Patient Outcomes

Brandon M. Lehrich[1], Junyan Tao[1], Evan R. Delgado[1], Aatur D. Singhi[1,2], Silvia Liu[1,2], and Satdarshan P. Monga[1,2,3]

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Poster 27 - Abstract 148

Evidence that Tumor/Fibroblast Crosstalk Potentiates ESR1 Mutant BC Cell Malignancy

Luca Gelsomino[1,2], Amanda Caruso[1], Rocco Malivindi[1], Adele Elisabetta Leonetti[1], Emine Tasan[1], Giuseppina Daniela Naimo[1], Ines Barone[1,2], Cinzia Giordano[1,2], Daniela Bonofiglio[1,2], Loredana Mauro[1], Guowei Gu[3], Suzanne A.W. Fuqua[3], Stefania Catalano[1,2], and Sebastiano Andò[1,2]

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Poster 28 - Abstract 149

ARF6 Dictates the Size and Quantity of Small and Intermediate-Large Extracellular Vesicles in Melanoma

Emre Dal[1,3], Yinshen Wee[2,3], Emily C. Wilson[2,3], Coulson P. Rich[2,3], Aaron Rogers[2,3], Joshua Tay[2,3], Sheri L. Holmen[3,4], Roger K. Wolff[2,3], Allie H. Grossmann[2,3].

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Poster 29 - Abstract 150
The Small GTPase ADP-Ribosylation Factor 6 (ARF6) Alters the Intratumoral Metabolic Landscape
Joshua K.H. Tay*[1,2], Kyle Dunlap*[3], Emily C. Wilson[1,2], Coulson P. Rich[1,2], Aaron Rogers[1,2], Junhua Wang[1,2], Sheri Holmen[2,4], Roger K. Wolff[1,2], Gregory S. Ducker[3], Allie H. Grossmann[1,2]
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Poster 30 - Abstract 151
Developing Animal Models to Study the Impacts of Bone Microenvironment on Cancer Bone Metastasis
Yang Yang[1,2], Chao Zhang[1], Xiaoxiao Hao[1], Pramod S. Gowda[1], and Timothy N. Trotter[1]
[1]Department of Pathology, University of Alabama at Birmingham, Birmingham, AL; [2]O'Neal Comprehensive Cancer Center, University of Alabama at Birmingham, Birmingham, AL

Poster 31 - Abstract 152
The Use of the Three-Dimensional Spherical Invasion Assay to Measure the Invasive Activity of Human Cancer Cells
Stephen D. Richbart, Emily G. Moles, Kathleen C. Brown, Adeoluwa A. Adeluola, and Piyali Dasgupta
Department of Biomedical Sciences, Joan C. Edwards School of Medicine, Marshall University, Huntington, WV

Poster 32 - Abstract 153
Overall Survival and Epithelial-Mesenchymal Transition (EMT) Genes Enrichment Analysis in Renal Papillary Carcinoma
Waleed Ali[1] and André Kajdacsy-Balla[2]
[1]Albert Einstein College of Medicine, The Bronx, NY; [2]University of Illinois at Chicago, Chicago, IL

Poster 33 - Abstract 263
Impact of Intraductal Ablation of Mammary Epithelium by 70% Ethanol in MNU Rat Models for Breast Cancer Prevention
Elizabeth G. Phelps[1], Erin Zaluzec[1,3], Mohamed Ashry[1,2], Elizabeth Kenyon[1,2], Katarzyna Kempinska[1,2], Legend Kenny[7], Katherine Powell[1,2], Jeremy M.L. Hix[2,5], Christiane Mallett[2,5], Matti Kiupel[6], Erik Shapiro[2,7], and Lorenzo F. Sempere[1,2]
[1]Precision Health Program, Michigan State University, East Lansing, MI; [2]Department of Radiology, Michigan State University, East Lansing, MI; [3]Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI; [4]College of Osteopathic Medicine, East Lansing, MI; [5]IQ Advanced Molecular Imaging Facility, Michigan State University, East Lansing, MI; [6]Veterinary Diagnostic Laboratory, College of Veterinary Medicine, East Lansing, MI; [7]Department of Biomedical Engineering, Michigan State University, East Lansing, MI

Cardiovascular Biology – Poster Session

Poster 34 - Abstract 039
Magnetic Extracellular Vesicle Delivery System for Matrix Synthesis for Abdominal Aortic Aneurysm Repair
Ande X. Marini, Golnaz N. Tomaraei, Justin S. Weinbaum, Mostafa Bedewy, and David A. Vorp
Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA

Poster 35 - Abstract 093
Cardiac Fibroblast-MHCII Contributes to Cardiac Pathophysiology in Doxorubicin-Induced Cardiomyopathy
Maria Antonia Zambrano, Abraham L. Bayer, Kuljeet Kaur, and Pilar Alcaide
Department of Immunology, Tufts University School of Medicine, Boston, MA

Poster 36 - Abstract 112
Novel Role of Endothelial Cell Stimulator of Interferon Genes (STING) in Systolic Dysfunction and Adverse Cardiac Remodeling Induced by Cardiac Pressure Overload
Erin Sanders[1,2], Noah Wagner[1,3], Abraham L. Bayer[1,3], Sasha Smolgovsky[1,3], Brandon Theall[1,3,] Mark Aronovitz[1,4], Kuljeet Kaur[1,3], Pilar Alcaide[1,3]
[1]*Tufts Graduate School of Biomedical Sciences, Tufts University, Boston, MA;* [2]*Department of Genetics, Molecular, and Cellular Biology, Tufts University School of Medicine, Boston, MA;* [3]*Department of Immunology, Tufts University School of Medicine, Boston, MA;* [4]*Molecular Cardiology Research Institute, Tufts Medical Center, Tufts University School of Medicine, Boston, MA*

Poster 37 - Abstract 154
Duration of SARS-CoV-2 mRNA Vaccine Persistence in Recently Vaccinated Patients and Factors Associated with Involvement of the Myocardium
Aram J. Krauson, Faye Victoria C. Casimero, Zakir Siddiquee, and James R. Stone
Department of Pathology, Massachusetts General Hospital, Boston, MA

Poster 38 - Abstract 155
Myocardial CD34^{+} Stromal Cells/Telocytes and CD68^{+} Macrophages Reveal a Dynamic Pattern of Interactions During Development of Post-Myocardial Infarction Scar
Daniel Schneider and Eduard I. Dedkov
Department of Biomedical Sciences, Cooper Medical School of Rowan University, Camden, NJ

Cardiovascular Biology and the Extracellular Matrix – Poster Session

Poser 39 - Abstract 156
Collagen Fibril Structure, Surface Charge and Vascular Calcification
Aratrika Pan, Naseem Story, Stevan Glisic, Michael Go, and Gunjan Agarwal
Department of Mechanical and Aerospace Engineering, The Ohio State University College of Engineering, Columbus, OH

Poster 40 - Abstract 157
Type XXVIII Collagen Formation as a Prognostic Marker of Mortality Risk in Patients with Atherosclerosis
Elisavet Angeli[1], Annelie Shami[2], Chrysostomi Gialeli[2], Morten Kardsal[1], Andreas Edsfeldt[3], Federica Genovese[1], and Isabel Gonçalves[3]
[1]*Nordic Bioscience A/S, Herlev, Denmark;* [2]*Clinical Sciences Malmö, Lund University, Sweden;* [3]*Clinical Sciences Malmö, Lund University and Cardiology, Skåne University Hospital, Sweden*

Poster 41 - Abstract 158
Long-Read Transcriptomics Reveals Tissue- and Age-Specific Differences in Elastin Isoform Expression
Likitha Nimmagadda[1], Kit Man Tsang, [1] Natalia Kim[1], Neelam Redekar[2], Russell H. Knutsen[1], Teresa R. Luperchio[1], and Beth A. Kozel[1]
[1]*Laboratory of Vascular and Matrix Genetics, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD;* [2]*Integrated Data Sciences Section, Research Technologies Branch, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, MD*

Poster 42 - Abstract 159
Fibulin-4 and LTBP-4 Interact with Syndecans to Regulate Elastogenesis
Hana Hakami[1], Neha Dinesh[1], Valentin Nelea[1,2], Natalie Lamarche Vane[1], Sylvie Ricard Blum[3], and Dieter P. Reinhardt[1,2]
[1]*Faculty of Medicine and Health Sciences, Department of Anatomy and Cell Biology, McGill University, Montreal, Canada;* [2]*Faculty of Faculty of Dental Medicine and Oral Health Sciences, McGill University, Montreal, Canada;* [3]*Université de Lyon 1, Institute of Molecular and Supramolecular Chemistry and Biochemistry, Villeurbanne, France*

Poster 43 - Abstract 160
Inhibition of the Histone Methyltransferase EZH2 with GSK126 Induces Vascular Stiffness in Mouse Aorta and Human Aortic Smooth Muscle Cells
Jaime Ibarrola[1], Rachel Xiang[1], Qing Lu[1], Zhe Sun[2], Michael A Hill[2], and Iris Z. Jaffe[1]
[1]*Molecular Cardiology Research Institute, Tufts Medical Center, Boston, MA;* [2]*Dalton Cardiovascular Research Center, Department of Medical Pharmacology and Physiology, University of Missouri, Columbia, MO*

Poster 44 - Abstract 161
Investigating the Impact of Near Complete Estrogen Deprivation on Cardiac Remodeling in Preclinical Models
Joshua D. Abrams, Valerie Payne, Adam Wilson, Alexandra Thomas, and Katherine L. Cook
Department of Surgery, Wake Forest University School of Medicine, Winston-Salem, NC

Collagens – Poster Session

Poster 45 - Abstract 016
Collagen Distribution in Mouse Embryo Abdominal Wall
Kentaro Ikemura, Gabriel Opoku, Ren Takashita, Saeko Hirabayashi, Farhana Hasib,
Nodoka Iguchi, Ikumi Sato, Eri Katsuyama, Shogo Watanabe, and Satoshi Hirohata
Department of Medical Technology, Graduate School of Health Science, Okayama University, Okayama, Japan

Poster 46 - Abstract 024
Investigating the Regulatory Impact of Collagen Type XI N-terminus Domain (NTD) Variants on Collagen Self-assembly Kinetics and Insights on the Molecular Interactions
Abu Sayeed Chowdhury, Stephanie Tuft, and Julia T. Oxford
Biomolecular Sciences, Boise State University, Boise, ID

Poster 47 - Abstract 056
The Role of Microvilli in the Organization of Apical Extracellular Matrix
Ava Niazi, Ju Ang Kim, Joosang Park, Dong-Kyu Kim, Di Lu, and Sungjin Park
Department of Neurobiology, University of Utah, Salt Lake City, UT

Poster 48 - Abstract 058
A Bidirectional Cross-talk Between the Adherens Junction-associated RNAi Machinery and the Extracellular Matrix Regulates Colon Epithelial Cell Behavior
Amanda Daulagala[1], Metin Cetin[2], Douglas W. Jimenez[1], Mary Catherine Bridges[1], Joyce Nair-Menon[1], Amy Bradshaw[3], Jeffrey Jones[4], Ozgur Sahin[2], and Antonis Kourtidis[1]
[1]*Department of Regenerative Medicine and Cell Biology, Medical University South Carolina, Charleston, SC;* [2]*Department of Biochemistry and Molecular Biology, Medical University South Carolina, Charleston, SC;* [3]*Division of Cardiology, Collage of Medicine, Medical University South Carolina, Charleston, SC;* [4]*Department of Surgery, Collage of Medicine, Medical University South Carolina, Charleston, SC*

Poster 49 - Abstract 067
Temporally-Restricted Patterns of Endothelial Cell Collagen IV Expression Determined With a Novel Knockin Col4a1-GFP Mouse Line
Nathaniel L. Lartey, Martijn van der Ent, Roxann Alonzo, and Philip D. King,
Department of Microbiology and Immunology, University of Michigan, Ann Arbor, MI

Poster 50 - Abstract 162
Molecular Magnetic Resonance Imaging of Prostate Cancer with a Collagen-specific Probe
Avan Kader[1,2,3], Jan O. Kaufmann[1,2,3], Dilyana B. Mangarova[1,3], Jana Moeckel[1], Lisa C. Adams[1], Julia Brangsch[1,3], Jennifer Lilly Heyl[1], Jing Zhao[1], Christine Verlemann[4], Uwe Karst[4], Federico Colletini[1,5], Timo A. Auer[1,5], Bernd Hamm[1], and Marcus R. Makowski[1,3,6]
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College London, School of Biomedical Engineering and Imaging Sciences, United Kingdom, St Thomas' Hospital Westminster Bridge Road, London, United Kingdom

Poster 51 - Abstract 163

Collagen Optical Characteristics Vary Between Low Stage and Muscle-invasive Bladder Cancers

Soheila Borhani[1], Virgilia Macias[2], Waleed Ali[3], Michael Abern[4], Daniel Moreira[1], Andre Kajdacsy-Balla[1]
[1]*School of Biomedical Informatics, University of Texas Health Science Center, Houston, TX;* [2]*Department of Pathology, University of Illinois at Chicago, Chicago, IL;* [3]*Albert Einstein College of Medicine, Bronx, NY;* [4]*Department of Urology, Duke University, Durham, NC*

Poster 52 - Abstract 164

Long-term Exposure to Organic Dust Promotes Inflammation, Oxidative Stress and Collagen Deposition in the Airways

Jenora Waterman, Simone Smith, Rohit Ranabhat, and Kristen Foust
Department of Biology, North Carolina Agricultural and Technical State University, Greensboro, NC

Poster 53 - Abstract 165

Insights into the Genetic and Molecular Mechanisms of Hypermobile Ehlers Danlos Syndrome

Cortney Gensemer[1], Taylor Petrucci, Tyler Beck, Lilong Guo, Jordan Morningstar, Rachel Biggs[1], Victoria Daylor, Kristina Stayer, Erika Bistran, Joe Delaney, Daniel P. Judge, Peng Chen, Hai Yao, Jan Guz, Alexander Awgulewitsch, Rupak Mukherjee, Robert Price, Mark Lavallee, Sunil Patel, Takiy Berrandou, Susan A. Slaugenhaupt, David Milan, Nabila Bouatia-Naji, and Russell A. Norris
Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina, Charleston, SC

Poster 54 - Abstract 166

Impairment in Processing of Collagen I in a Novel Murine Model of Dermatosporaxis Ehlers Danlos Syndrome

Madalyn Osterhaus, Taylor Petrucci, Cortney Gensemer, Erika Bistran, Jillian Schnaudigel, Katy Byerly, Jordan Morningstar, Molly Griggs, Gyda Beeson, Victoria Daylor, Lilong Guo, Fu-Lei Tang, and Russell Norris
Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina, Charleston, SC

Poster 55 - Abstract 167

Interactions Between ECM Proteins Reveal Insights into the Mechanism Behind Hypermobile Ehlers-Danlos Syndrome

Taylor Petrucci, Lilong Guo, Cortney Gensemer, Jordan E. Morningstar, Kathryn Byerly, Erika Bistran, Emily Fleck, Tyler Beck, Victoria Daylor, Russell Norris
Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina, Charleston, SC

Poster 56 - Abstract 168

Evaluation of Fibrosis Phenotypes with Novel Digital Pathology Methods in the NOD/ShiLtj Mouse Model of Sjögren's Disease Following Treatment with Nintedanib

Jennifer M. Morrissey[1,2], Li Chen[3], Nathan Aist[3], Deirdre A. Nelson[1], Mathieu Petitjean[3], and Melinda Larsen[1,2]
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Poster 57 - Abstract 169

Dissecting Collagen Type I Regulation by the RNA-Binding Protein Larp6

Eric L. Baggs[1], Steve Broyles[1], Cayla Meredith[1], Clariza Arteaga[1], Karen A. Lewis[2], and Lisa R. Warner[1]
[1]*Department of Chemistry and Biochemistry, Boise State University, Boise, ID;* [2]*Department of Chemistry and Biochemistry, Texas State University, San Marcos, TX*

Poster 58 - Abstract 170
MUSC Ehlers Danlos Syndrome Biorepository: A Gateway to Understanding Genetic Connective Tissue Diseases
Russell Norris, Fu-Lei Tang, Jan Guz, Kristi Helke, Alexander Awgulewitsch, Taylor Petrucci, Lilong Guo, and Cortney Gensemer
Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina, Charleston, SC

Poster 59 - Abstract 171
LaRP-6 Post Transcriptional Regulation of Fibrosis
Clariza Arteaga, Steve Broyles, Lisa Rose Warner, and Eric L. Baggs
Biomolecular Program, Boise State University, Boise, ID

Poster 60 - Abstract 172
Comparison of Vitreous Collagen Fiber Network between Humans, Marmosets, Pigs, and Rabbits
Eileen S. Hwang and Denise J. Morgan
Department of Ophthalmology and Visual Sciences, University of Utah, Salt Lake City, UT

Poster 61 - Abstract 173
Effect of the Ratio of Type I to Type III Collagen on Cell Behavior in Three-dimensional Culture
Kazumasa Fujita, Yuki Kumazawa, Yusuke Murasawa, and Kazunori Mizuno
Research Institute of Biomatrix, Nippi Inc., Ibaraki, Japan

Extracellular Matrix Biology – Poster Session

Poster 62 - Abstract 026
Multi-omics Characterization of Matrisome Dynamics During IPF Pathogenesis
Sarah Lloyd[1], Xue Wang[2], Liang Jin[2], Fei Wang[2], Kenneth Ruterbories[1], Cassandre Coles[1], Lisa Hazelwood[1], Qin Ji[1], Yu Tian[2], and Yupeng He[1]
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Poster 63 - Abstract 027
MatrisomeDB: An ECM Proteomics Tool to Facilitate Biomarker Discovery
Nandini Kapoor[1], James Considine[1], Clarissa Gomez[1], Xinhao Shao[1], Yu Gao[2,3], and Alexandra Naba[1,3]
[1]*Department of Physiology and Biophysics, University of Illinois Chicago, Chicago, IL;* [2]*Department of Pharmaceutical Science, University of Illinois Chicago, Chicago, IL;* [3]*University of Illinois Cancer Center, Chicago, IL*

Poster 64 - Abstract 034
Versican Mediates the Crosstalk between Keratinocytes and Dermal Papilla Cells in Hair Follicles
Xi Chen and Jiang Chen
Departments of Dermatology, Stony Brook University, Stony Brook, NY

Poster 65 - Abstract 063
MFAP4 Forms Octamers Required for Functional Interactions with Elastogenic Proteins
Michael R. Wozny[1,*], Valentin Nelea[1,2,*], Mike Strauss[1,#], and Dieter P. Reinhardt[1,2,#]
[1]*Faculty of Medicine and Health Sciences, McGill University, Montreal, QC, Canada;* [2]*Faculty of Dentistry and Oral Health Sciences, McGill University, Montreal, QC, Canada*

Poster 66 - Abstract 064
Multiple Cell Types Influence Extracellular Matrix Dynamics During Planarian Regeneration
Ekasit K. Sonpho[1], Carlos Guerrero-Hernández[1], Charles A. S. Banks[1], Eric J. Ross[1,2], Carolyn Brewster[1], Sean McKinney[1], Frederick G. Mann Jr.[1,2], Stephanie Nowotarski[1], Mol Mir[1], Melainia McClain[1], Laurence Florens[1], and Alejandro Sánchez Alvarado[1,2]
[1]*Stowers Institute for Medical Research, Kansas City, MO;* [2]*Howard Hughes Medical Institute, Kansas City, MO*

Poster 67 - Abstract 065
Delineating the Timeline of SNED1 Fibrillogenesis and Assembly in the Extracellular Matrix
Leanna Leverton[1], Dharma Pally[1], and Alexandra Naba[1,2]
[1]*Department of Physiology and Biophysics, University of Illinois at Chicago, Chicago, IL;* [2]*University of Illinois Cancer Center, Chicago, IL*

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Fibronectin-mediated Physiological and Pathological Mechanisms in Skeletal Development
Neha Dinesh**[1]**, Justine Rousseau[2], Philippe Campeau[#2], and Dieter P. Reinhardt[1,3]
[1]*Faculty of Medicine and Health Sciences, McGill University, Montreal, QC, Canada;* [2]*CHU Sainte-Justine Research Center, Montreal, QC, Canada;* [3]*Faculty of Dental Medicine and Oral Health Sciences, McGill University, Montreal, QC, Canada.*

Poster 69 - Abstract 091
Treating Vocal Fold Scarring: Leveraging Decorin as a Regulator of Vocal Fold Extracellular Matrix Structure in Development and Repair
Ryan M. Friedman[1,2], Elizabeth A. Brown[1,2], Arielle. S. Brueninger[1], Matthew R. Aronson[1,2], Karen B. Zur[2], and Riccardo Gottardi[1,2,3]
[1]*Department of Bioengineering, School of Engineering and Applied Sciences, University of Pennsylvania, Philadelphia, PA;* [2]*Department of Surgery, Division of Otolaryngology, Children's Hospital of Philadelphia, Philadelphia, PA;* [3]*Department of Pediatrics, Division of Pulmonary Medicine, University of Pennsylvania, Philadelphia, PA*

Poster 70 - Abstract 092
Migrational Decision Making in Response to Multiple Directional Extracellular Matrix Cues
Ian Schneider, Azarnoosh Foroozandehfar, Fred Namanda, Mary Thatcher, and Savanna Busch
Department of Chemical and Biological Engineering, Iowa State University, Ames, IA

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Effects of Collagen V on Fibril Morphology and Fibroblast Adhesion and Contractility
Shaina P. Royer and Sangyoon J. Han
Department of Biomedical Engineering, Michigan Technological University, Houghton, MI

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The Development of the Extracellular Matrix of the Brain
Igal Sterin, Ava Niazi, Jennifer Kim, Joosang Park, and Sungjin Park
Department of Neurobiology, University of Utah School of Medicine, Salt Lake City, UT

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Piezo Initiates Transient Production of Collagen IV to Repair Damaged Basement Membranes
Aubrie M. Stricker and Andrea Page-McGraw
Department of Cell and Developmental Biology, Vanderbilt University School of Medicine, Nashville, TN

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Heterogeneous Tendon Composition Dictates Location-dependent Material Properties
Hannah M. Larson, Olivia J. Ward, and Sarah Calve
Department of Mechanical Engineering, College of Engineering and Applied Science, University of Colorado Boulder, Boulder, CO

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A Novel Mutation in the Hybrid1 Domain of the Fibrillin 1 Gene Causes an Abnormal Skin Phenotype
ASM Sakhawat Hossain[1], Maria Thea Rane Dela Cruz[2], Koichiro Uto[4], Eri Motoyama[3], Sumio Ohtsuki[4], Keiichi Asano[3], Kenichi Kimura[3], Sachiko Kanki[5], Erna Raja[3], and Hiromi Yanagisawa[3]
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The Selective Removal of Gram-negative Bacterial Communities Prevents Subglottic Stenosis in a Mouse Model
Matthew R. Aronson[1], Ryan M. Friedman[1], Amrita Mehta[1], Kendra S. McDaid[2], Ryan C. Borek[2], Connor N. Devine[2], Terri Giordano[2], Ian N. Jacobs[2], and Riccardo Gottardi[2]
[1]*Department of Bioengineering, University of Pennsylvania, Philadelphia, PA;* [2]*Division of Otolaryngology, Department of Surgery, Children's Hospital of Philadelphia, PA*

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A Novel Role for the PI3 Kinase Delta Isoform in Normal Hepatocyte Proliferation
Wendy M. Mars, Nicole J. Martucci, John Stoops, William Bowen, Anne Orr, Mary-Claire Cotner, Bharat Bhushan, and George K. Michalopoulos
Department of Pathology, University of Pittsburgh Medical School, Pittsburgh, PA

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The Matrigel Duplex Assay: A Sensitive Method to Measure Retinal Angiogenesis
Amanda Sugrue, Kathleen C. Brown, Aaron M. Dom, Jamie K. Lau, and Piyali Dasgupta
Department of Biomedical Sciences, Joan C. Edwards School of Medicine, Marshall University, Huntington, WV

Poster 80 - Abstract 180
Calreticulin Electrospun into Biomimetic Extracellular Matrix Nanofibers Functionally Synergize for Cellular Responses that Enable Tissue Regeneration
Sarita Mishra[1], Mary E. Stack[2], Haoyu Wang[2], Matangi Parimala Chelvi Ratnamani[2], Hongjum Wang[2], and Leslie I. Gold[1]
[1]*Departments of Medicine and Pathology, Division of Precision Medicine, New York University School of Medicine, New York, NY;* [2]*Department of Biomedical Engineering and Innovation Health, Stevens Institute of Technology, Hoboken, NJ*

Poster 81 - Abstract 181
Anisotropic Force Transmission within Aligned Collagen Networks
Ian Schneider, Gopal Niraula, Azarnoosh Foroozandehfar, and Fred Namanda
Chemical and Biological Engineering, Iowa State University, Ames, IA

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Quantification of C-pp Processing and Collagen Secretion by Visualized Type I Procollagen Iα1
Koji Moriya and Toshiaki Tanaka
Department of Life Science and Technology, Tokyo Institute of Technology, Yokohama, Japan

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Collagen XVIII Long Form Might be a New Type of Membrane Bound Collagen
Tomonori Ueno and Kazunori Mizuno
Nippi Research Institute of Biomatrix, Ibaraki, Japan

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Development of Human Decellularized Extracellular Matrix Hydrogel Biomaterial for Applications in Tissue Engineering for Investigating Pulmonary Fibrosis
Aubrianna Saxton,[1] Ashley Chang,[1] Jon Valdoz,[1] Jhon Sia,[1] Collin Cribbs,[1] Nick Franks,[1] Seth Garfield,[1] Dawson Downs,[1] Hailey Hepworth,[1] Kyle Nielson,[1] A. Sampath Narayan,[2] Mary B. Scholand,[3] Ganesh Raghu,[4] and Pam Van Ry[1]
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Novel Organotypic Lung Triculture Method Paving the Way to Personalized Medicine
Pam M. Van Ry[1], Jonard C. Valdoz[1], Connor Knight[1], P. Daniel Poulson[1], Seth R. Garfield[1], Benjamin C. Johnson[1], Brandon M. Hemeyer[1], Miranda T. Sudo[1], Jordan A. Saunooke[1], Braden C. Kartchner[1], Aubrianna Saxton[1], Ashley Chang,[1] Mary L. Vallecillo-Zuniga[1], Matheus Santos[1], Brandon Chamberlain[1], Haeun Gim,[1] Mary B. Scholand[5], Kenneth A. Christensen[1], Greg P. Nordin[2], A. Sampath Narayanan[4], Anindya Roy[6], Lance J. Stewart[6], David Baker[6,7], and Ganesh Raghu[3]

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Elucidating Ovarian Cancer Extracellular Matrix Spatiotemporal Dynamics Linked to Platinum Chemoresistance

Kristin Calar[1], and Pilar de la Puente[1,2]

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A Novel Reagent for Probing Fibronectin Matrix Assembly

Henry Resnikoff, Emily Saulino, Aaron Hamlin, and Jean Schwarzbauer

Department of Molecular Biology, Princeton University, Princeton, NJ

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Versican Distribution and Its Cleavage in Adamts1 Knockout Mouse Embryos

Gabriel Opoku[1], Kentaro Ikemura[1], Omer Faruk Hatipoglu[2], Ren Takashita[1], Saeko Hirabayashi[1], Farhana Hasib[1], Iguchi Nodoka[1], Ikumi Sato[1], Eri katsuyama[1], and Satoshi Hirohata[1]

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Fibulin-5 is Essential for Elastogenesis and Preserved Vascular Function in the Mesentery

Michelle Lin[1], Robyn A. Roth[1], Hiromi Yanagisawa[2], and Carmen M. Halabi[1]

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LOXL1 Deficiency Reduces TGFβ1-induced Fibrosis in Trabecular Meshwork Cells/Tissues

Maria Fernanda Suarez[1], Heather M. Schmitt[1,2], Megan Kuhn[1], Kristyn Hake[1], Tara Weisz[1], Edward Flynn III[1], Katy C. Liu[1], Michael A. Hauser[1], and W. Daniel Stamer[1]

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The *Triptryium wilfordii* Derivative Celastrol, a YAP Inhibitor, has Anti-fibrotic Effects in Systemic Sclerosis by Suppressing Activation of Reticular Fibroblasts

Pratyusha Chitturi[1], Xu Shi-wen[2], Bahja Ahmed Abdi[2], Sarthak Sinha[3], Jeff Biernaskie[3], Richard J. Stratton[2], and Andrew Leask[1]

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Nanostring Gene Expression Analysis of Normal and Glaucomatous Trabecular Meshwork Cells With and Without the N700S Thrombospondin-1 Polymorphism.

Kate E. Keller[1], Ying Ying Sun[1], Paul Holden[1], Joanne E. Murphy-Ullrich[2], and Yong-feng Yang[1]

[1]*Casey Eye Institute, Oregon Health & Science University, Portland, OR;* [2]*Departments of Pathology, Cell Developmental and Integrative Biology, and Ophthalmology and Visual Sciences, University of Alabama at Birmingham, Birmingham, AL*

Poster 93 - Abstract 193
Leukemia Inhibitory Factor (LIF): A Matrisome-Associated Secreted Factor Inducing Tumorigenesis and Chemoresistance in High Grade Serous Ovarian Cancer
Megan Jorgensen[1,2], Kristin Calar[1], Maria Bell[3], and Pilar de la Puente[1,3,4#]
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Role of Integrin Alpha 4 and Alpha 9 in the Development of Elevated IOP and Trabecular Meshwork Damage
Tania Sharmin and Colleen M. McDowell
Department of Ophthalmology and Visual Sciences, University of Wisconsin - Madison, Madison, WI

Poster 95 - Abstract 195
Chromosomal Translocation Converts a Laminin Gene, LAMC2, Into an Oncogene in Ovarian Carcinoma
Naohiko Koshikawa, Ryo Kaneko, and Nobuaki Funahashi
School of Life Science and Technology, Tokyo Institute of Technology, Yokohama, Japan

Poster 96 - Abstract 196
A Novel Interaction of CD47 with Filamin A Identified Using Single Vesicle Imaging and Mass Spectrometry Analyses of Extracellular Vesicles released from T Lymphoblast and Prostate Carcinoma Cells
Sukhbir Kaur[1], Lisa M. Jenkins[2], and David D. Roberts[1]
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Poster 97 - Abstract 197
Toll-Like Receptor 4 Dependent Optic Nerve Head Damage
Collen M. McDowell and Emma K. Geiduschek
Department of Ophthalmology and Visual Sciences, University of Wisconsin - Madison, Madison, WI

Poster 98 - Abstract 198
Regulation of Macrophage Gene Expression by Matrix Components
Ivy S. McDermott, Ksenija Bernau, Angie Oler, Parker Esswein, Carson Gehl, Kelsey Holbert, Bianca Tomasini-Johansson, Paul Campagnola, Glen Kwon, and Nathan Sandbo
Department of Medicine, University of Wisconsin-Madison, Madison, WI

Poster 99 - Abstract 199
Shock Drives a STAT3 and JunB-mediated Coordinated Transcriptional and DNA Methylation Response in the Endothelium
Ramon Bossardi Ramos[1], Nina Martino[1], Shuhan Lu[2], Iria Di John Portela[1], Peter A. Vincent[1], and Alejandro P. Adam[1]
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Matrix Proteoglycans Regulate CD4$^+$ T cell Functions in Secondary Lymphoid Organs
George Maiti and Shukti Chakravarti
Department of Ophthalmology, NYU Grossman School of Medicine, New York, NY

Poster 101 - Abstract 201
Identification of ADAMTS9 and ADAMTS20 Basement Membrane Substrates using N-Terminomics
Sumit Bhutada and Suneel S. Apte
Department of Biomedical Engineering, Cleveland Clinic – Lerner Research Institute, Cleveland, OH

Poster 102 - Abstract 202
Expansion of Extracellular Proximity Labeling Technique to Novel Matrisome Targets and Culture Conditions
Joshua Rich, Sasha Coates-Park, Sadeechya Gurung, Yueqin Liu, Anshika Govil, Sukhbir Kaur, David Roberts, William Stetler-Stevenson, and David Peeney
Extracellular Matrix Pathology Section, Laboratory of Pathology, National Cancer Institute, National Institute of Health, Bethesda, Maryland

Poster 103 - Abstract 203
The Matrisome Project: A One-Stop Shop for ECM-Omic Research
Ikram Isa[1], James Considine[1], Adriana Duraki[1], Alexandra Naba[1,2]
[1]*Department of Physiology and Biophysics, University of Illinois Chicago, Chicago, IL;* [2]*University of Illinois Cancer Center, Chicago, IL*

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A Regulatory Role for Macrophages in Fibroblast Circadian Rhythm and Collagen-I Deposition
Katherine Lowles, Marie Cutiongco, Qing Jun Meng, Tracy Hussell, Karl Kadler, and Joan Chang
Division of Molecular and Cellular Function, University of Manchester, Manchester, UK

Poster 105 - Abstract 204
Human Upper-Airway Fibroblasts from Patients with Subglottic Stenosis Retain Transcriptional Memory of Fibrotic Niche
Daniel D. Ghaderi[1], Matthew R. Aronson[1], Ryan M. Friedman[1], Ryan C. Borek[2], Connor M. Devine[2], Terri Giordano[2], Ian N. Jacobs[2], and Riccardo Gottardi[2]
[1]*Department of Bioengineering, University of Pennsylvania, Philadelphia, PA;* [2]*Division of Otolaryngology, Department of Surgery, Children's Hospital of Philadelphia, PA*

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Doxorubicin-Induced Modulation of TGF-β Signaling Cascade in Mouse Fibroblasts: Insights into Cardiotoxicity Mechanisms
Conner Patricelli[1], Parker Lehmann[2], Shin Pu[1], and Julia Thom Oxford[1]
[1]*Biomolecular Sciences, Boise State University, Boise, ID;* [2]*Idaho College of Osteopathic Medicine, Meridian, ID*

Poster 107 - Abstract 206
Transcription Factor HOXA5 is Mechanically Regulated in Pulmonary Fibroblasts via Integrin αV Signaling
Andrew E. Miller[1], Ping Hu[1], Grace C. Bingham[1], Deneen M. Wellik[2], Mete Civelek[1], Thomas H. Barker[1]
[1]*Biomedical Engineering, University of Virginia, Charlottesville, VA;* [2]*Department of Cell and Regenerative Biology, University of Wisconsin-Madison, Madison, WI*

Poster 108 - Abstract 207
Fibroblast Mechanobiology Governs the Progression of Vocal Fold Scarring via the MRTF/SRF Axis
Ryan M. Friedman[1,2], Matthew R. Aronson[1,2], Karen B. Zur[2], and Riccardo Gottardi[1,2,3]
[1]*Department of Bioengineering, School of Engineering and Applied Sciences, University of Pennsylvania, Philadelphia, PA;* [2]*Department of Surgery, Division of Otolaryngology, Children's Hospital of Philadelphia, Philadelphia, PA;* [3]*Department of Pediatrics, Division of Pulmonary Medicine, University of Pennsylvania, Philadelphia, PA*

Poster 109 - Abstract 208
Reprograming Ovarian Cancer-Associated Fibroblasts Using Tumor Conditioned Media
Hailey Axemaker[1], and Pilar de la Puente[1,2]
[1]*Cancer Biology and Immunotherapies Group, Sanford Research, Sioux Falls, SD;* [2]*Department of Obstetrics and Gynecology, University of South Dakota Sanford School of Medicine, Sioux Falls, SD*

Poster 110 - Abstract 209
Fibroblasts Repair Blood-brain Barrier Damage and Hemorrhagic Brain Injury Via TIMP2
Lingling Xu and Yao Yao
Department of Molecular Pharmacology and Physiology, University of South Florida, Tampa, FL

Infectious Diseases – Poster Session

Poster 111 Abstract 210
Commensal Microbes Limit *Fusobacterium nucleatum* Colonization of Human Bacterial Bioreactors
Rachel M. Edens, Hyland Gonzalez, Amy Engevik, and Mindy Engevik
Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina, Charleston, SC

Poster 112 - Abstract 211
Interleukin 6 Induces an Antiviral Response Independent of Interferons Through Mitochondrial DNA Release and Direct STAT1 Activation
Nina C. Martino, Ramon Bossardi Ramos, Mei Xing Zuo, Shuhan Lu, Iria Di John Portela, and Alejandro P. Adam
Department of Molecular and Cellular Physiology, Albany Medical Center, Albany, NY

Poster 113 - Abstract 212
***Clostridioides difficile* Enzymatically Degrades the Outer Wall of *Candida* Species to Support its Growth**
Alyssa S. Gutierrez[1], Taylor D. Ticer[2], Adelaide Horvath[1], Janiece S. Glover[1], and Melinda A. Engevik[1,2]
[1]*Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina, Charleston, SC;* [2]*Department of Microbiology and Immunology, Medical University of South Carolina, Charleston, SC*

Poster 114 - Abstract 213
Pathogenicity of *Acinetobacter calcoaceticus*
Kaitlan A. Sullivan[1], Janiece S. Glover[2], Mindy A. Engevik[2], and Jessica H. Hartman[1]
[1]*Department of Biochemistry, Medical University of South Carolina, Charleston, SC;* [2]*Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina. Charleston, SC*

Poster 115 - Abstract 214
Blood Group Positive Microbes Stimulate the Development of Anti-blood Group Antibody Formation
Shang-Chuen Wu, Connie Arthur, and Sean Stowell
Department of Pathology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

Poster 116 - Abstract 215
Integrating Genomics, Transcriptomics and Virulence to Study *Streptococcus dysgalactiae* subspecies equisimilis (SDSE) Strains Causing Severe Infections in Humans
Jesus M. Eraso[1], Randall J. Olsen[1], S. Wesley Long[1], Stephen B. Beres[1], Ryan Gadd[1], Sarrah Boukthir[2], Ahmad Faili[2], Samer Kayal[2], and James M. Musser[1]
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Poster 117 - Abstract 216
Population Genomic Analysis of 499 *Streptococcus dysgalactiae subsp. equisimilis* Clinical Isolates Collected in French Brittany, 2010-2018
Stephen B. Beres[1], Randall J. Olsen[1], S. Wesley Long[1], Jesus Eraso[1], Sarrah Boukthir[2], Ahmad Faili[3], Samer Kayal[3], and James M. Musser[1]
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Poster 118 - Abstract 217
Regulation of the Adherens Junction-Associated RNAi Machinery by Oral Pathogens
Christina Kingsley, Joyce Nair-Menon, Amanda Daulagala, Melinda Engevik, and Antonis Kourtidis
Department of Regenerative Medicine and Cell Biology, Medical University of South Carolina, Charleston, SC

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The Role of CCR2+ Myeloid Cell Transmigration in Non-proliferative Diabetic Retinopathy
Vivienne Fang, Jeremy A. Lavine, and William A. Muller
Department of Pathology, Northwestern University Feinberg School of Medicine, Chicago, IL

Poster 120 - Abstract 219
Intestinal Protein Sorting Nexin 27 Preserves Epithelial Barrier and Inhibits Inflammation
Shreya Deb[1], Yongguo Zhang[1], Yinglin Xia[1,2], and Jun Sun[1,2,3,4]
[1]*Division of Gastroenterology and Hepatology, Department of Medicine, University of Illinois Chicago, Chicago, IL;* [2]*Jesse Brown VA Medical Center, Chicago, IL;* [3]*UIC Cancer Center, University of Illinois Chicago, Chicago, IL;* [4]*Department of Microbiology and Immunology, University of Illinois Chicago, Chicago, IL*

Liver Pathobiology – Poster Session

Poster 121 - Abstract 013
Expanding the Pool of Transplantable Livers Using Molecular Profiling and Histopathological Analysis
Ankita Srivastava, Alexandra Manchel, John Waters, Manju Ambelil, Jan B. Hoek, and Rajanikanth Vadigepalli
Daniel Baugh Institute for Functional Genomics and Computational Biology, Department of Pathology and Genomic Medicine, Thomas Jefferson University, Philadelphia, PA

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Targeted Hepatocyte-Specific β-catenin Overexpression Facilitates Improved Biliary Repair During Intrahepatic Cholestasis
Chhavi Goel, Qin Li, Pamela Cornuet, and Kari Nejak-Bowen
Department of Pathology, Division of Experimental Pathology, Pittsburgh Liver Research Center, University of Pittsburgh School of Medicine, Pittsburgh, PA

Poster 123 - Abstract 221
TET1 antagonizes ferroptosis in alcohol associated liver disease
Sonali Notani[1], Muhammad Nisar Azhar[1], Hongze Chen[1], Eve Elkins[1], Shaolei Lu[2], and Chiung-Kuei Huang[1]
[1]*Department of Medicine, Pathology and Laboratory Medicine, Tulane University School of Medicine, New Orleans, LA;* [2]*Department of Pathology Laboratory Medicine, Alpert Medical School of Brown University, Providence, RI*

Poster 124 - Abstract 222
Determination of the MicroRNA Profile of the EVs in the Context of Autophagy Deficiency
Gang Liu, Ailar Arastah, and Xiao-Ming Yin
Department of Pathology and Laboratory Medicine, Tulane University School of Medicine, New Orleans, LA

Poster 125 - Abstract 223
Inhibition of β-catenin Attenuates Lithocholic Acid-Induced Hepatotoxicity
Chhavi Goel[1], Rong Zhang[1], Silvia Liu[1], Pamela Cornuet[1], Xiaochao Ma[2], and Kari Nejak-Bowen[1,3]
[1]*Department of Pathology, University of Pittsburgh School of Medicine, Pittsburgh, PA;* [2]*Department of Pharmaceutical Sciences, University of Pittsburgh School of Medicine, Pittsburgh, PA;* [3]*Pittsburgh Liver Research Center, University of Pittsburgh School of Medicine, Pittsburgh, PA*

Poster 126 - Abstract 224
Pivotal Role of MET in Promoting Liver Regeneration Following Acetaminophen Hepatotoxicity Identified Using Liver-Specific Knock-Out and Pharmacological Inhibition Strategies in Mice
Siddhi Jain, Ranjan Mukherjee, Matthew Avery Copeland, John Stoops, Wendy M. Mars and Bharat Bhushan
Department of Pathology, University of Pittsburgh School of Medicine, Pittsburgh Liver Research Center, University of Pittsburgh Medical Center, University of Pittsburgh, Pittsburgh, PA

Poster 127 - Abstract 225
Stellate Cell Wnts Regulate Endothelial Cell-Hepatocyte Zonation to Maintain Hepatic Metabolic and Proliferative Homeostasis
Anya Singh-Varma, Shikai Hu, Leon Min, Brandon M. Lehrich, Anisha Jain, Minakshi Poddar, Ian Sipula, Fiona M Bello, Amber M Vandevender, Sucha Singh, Aaron W. Bell, Michael Jurczak, Shuchang Liu, and Satdarshan Paul Monga
Department of Pathology, Division of Experimental Pathology, Pittsburgh Liver Research Center, University of Pittsburgh School of Medicine, Pittsburgh, PA

Poster 128 - Abstract 226
PPARα-SMPD3 Axis Regulates Hepatic Lipid Accumulation and Inflammation in NAFLD/NASH
Tomoki Yagai
Department of Molecular Medicine and Metabolism, Research Institute of Environmental Medicine, Nagoya University, Nagoya, Japan

Poster 129 - Abstract 227
Co-activation of β-catenin with Nuclear Factor Erythroid 2-related Factor 2 and MET: Biological and Therapeutic Implications
Junyan Tao[1], Brandon M. Lehrich[1], Silvia Liu[1], Evan Delgado[1], Minakshi Poddar[1], Sucha Singh[1], Tulin Dadali-Abel[2], Wendy Broom[2], Aaron Bell[1], and Satdarshan P. Monga[1]
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Poster 130 - Abstract 228
Lipid Dysregulation in Beta-catenin-driven Hepatocellular Carcinoma
Aavrati Saxena, Junko Kuramoto, Chad Van-Sant Webb, Richard Smith, Alexis Fulbright, Kimberley J. Evason, and Gregory S. Ducker
Department of Oncological Sciences, Huntsman Cancer Institute, University of Utah, Salt Lake City, UT

Poster 131 - Abstract 229
Maternal Obesogenic Diet Exposure Increases Post-natal Hepatocyte Proliferation and Shifts Liver Regeneration in Offspring Following Partial Hepatectomy
Naresh Naik Ramavath, Jiansheng Huang, David Rudnick, and Michael D. Thompson
Department of Pediatrics, Washington University School of Medicine, St. Louis, MO

Mechanisms of Fibrosis – Poster Session

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The Role of Fibronectin in Mediating the Progression of TGF-β1-Induced Renal Fibrosis in a 3D Culture Model
Kristin Kim and Christopher Lemmon
Department of Biomedical Engineering, Virginia Commonwealth University, Richmond, VA

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Lung Mesenchymal Cell Apoptosis and Plasticity Revealed by a BCL2 Overexpression Mouse Model
Maria Jose Gacha-Garay[1,2] and Jichao Chen[2]
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Role of DEK in Chronic Liver Disease Development
Nickol Wahby, Niani Bailey, Clifford Nkomo, Adriana Lopez, and Bilon Khambu
Department of Pathology and Laboratory Medicine, Tulane University School of Medicine, New Orleans, LA

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The Potential of Long Noncoding RNAs to Regulate Conjunctival Fibrosis
Stephanie Frahs Tuft, Carissa Hale, Abu Sayeed Chowdhury, and Julia Oxford
Biomolecular Research Center, Boise State University, Boise, ID

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Hydrogel-mediated Delivery of Thy-1 to Alleviate Fibrosis
Mathew Kibet and Daniel Abebayehu
Department of Biomedical Engineering, University of Virginia, Charlottesville, VA

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Exercise in Chronic Kidney Disease Patients Does Not Significantly Alter Fibrosis in Quadriceps Muscle
Sarah E. Brashear[1], Armin Ahmadi[1], Vishal Rao[1], Gwenaelle Begue[2], Tae Youn Kim[1], Jorge Gamboa[3], Baback Roshanravan[1], and Lucas Smith[2]
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Osteopontin and CCR2 Are Involved in the Inflammatory Cells in Non-alcoholic Steatohepatitis Model Rats
Ikumi Sato[1], Ryosuke Ando[2], Rikuto Someya[3], Kurumi Matsuki[3], Kentaro Ikemura[2], Gabriel Opoku[2], Ren Takashita[2], Saeko Hirabayashi[2], Farhana Hasib[2], Nodoka Iguchi[2], Eri Katsuyama[1], Shusei Yamamoto[1], Shogo Watanabe[1], Satoshi Hirohata[1]
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***Trypanosoma cruzi* Induces the Expression of Host piwi-interacting RNAs Targeting *TGFB1* to Facilitate Cellular Infection**
Kayla J. Rayford, Ayorinde Cooley, Inmar Osi, Anthony Strode, Destiny Ball, Siddharth Pratap, and Pius N. Nde
Department of Microbiology, Immunology and Physiology Meharry Medical College, Nashville, TN

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Higher Urine LG3 Levels are Associated with Risk of Cardiovascular Events and Chronic Kidney Disease Progression in Individuals with Type 2 Diabetes and Microalbuminuria
Clara F.G. Laursen[1], Alexandra Louise Møller[1], Daniel G.K. Rasmussen[1], Federica Genovese[1], Henrik Reinhard[2], Bernt Johan von Scholten[2,3], Morten A. Karsdal[1], Tine W. Hansen[2], and Peter Rossing[2,4]
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Determining the Role of the Extracellular Matrix in the Pathogenesis of Polycystic Kidney Disease
Richard W. Naylor and Rachel Lennon
Division of Cell Matrix Biology and Regenerative Medicine, University of Manchester, Manchester, UK

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Loss of Neuropilin-1 in Vascular Smooth Muscle Results in Hypertension
Gabriel Luis B. Ocampo[1], Yao Gao[1], Dakshnapriya Balasubbramanian[1], Vivian Cristofaro[2], Karen S. Moulton[3], Alexander Bigger-Allen[4], Beibei Wang[1], Hong Chen[1], Rosalyn M. Adam[4], Maryrose P. Sullivan[2], and Diane R. Bielenberg[1]
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Neuropathology – Poster Session

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Quantitative Digital Image Analysis of Whole Slide Images to Investigate White Matter Rarefaction in Alzheimer's Disease
Dana R. Julian[1], Jr Jiun Liou[2], Karl Herrup[3], Thomas Pearce[1], Howard Aizenstein[4], and Julia K. Kofler[1]
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Pittsburgh School of Medicine, Pittsburgh, PA; [4]Department of Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, PA

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Placing Tumor Cells in the Organ-Specific Context: 3D in Vitro Models of Glioblastoma on Acellular Brain Matrices
Mahsa Vaezzadeh[1], Umut Rende[2], Mina Ghanimi Fard[1], Annemarie Nadort[1], Aleksandra Igrunkova[1], Sameera Iqbal[1], Vivienne Lee[1], Lindsay Parker[1], Benjamin Heng[1], Anna Guller[1]
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Role of ICI-182,780 in Antagonize Angiotensin II-Stimulatory Effects in Glioblastoma Stemness
Giuseppina Daniela Naimo, Adele Elisabetta Leonetti, Salvatore Panza, Luca Gelsomino, Paola Ruffo, Rocco Malivindi, Loredana Mauro, and Sebastiano Andò
Department of Pharmacy, Health and Nutritional Sciences, University of Calabria, Cosenza, Italy

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Brainstem CircRNAs Regulation in Neonatal Sepsis
Michele J. Alves, Anika Ayyalaraju, Juliet Torres, and José Javier Otero
Department of Pathology, The Ohio State University, College of Medicine, Columbus, OH

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Evaluation of the Alpha-synuclein and Tau Anti-fibrillary Activity of 2-Amino-4-methoxybenzothiazole Derivatives
Taiwo Ademoye[1], Ahmed A. Elbatrawy[1], Eduardo Ramirez[1], Ashique Zami[2], Raluca Ostafe[2], and Jessica S. Fortin[1]
[1]*Basic Medical Sciences, College of Veterinary Medicine, Purdue University, West Lafayette, IN;* [2]*Institute of Inflammation, Immunology, and Infectious Disease, Purdue University, West Lafayette, IN*

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A Symmetric Molecule with Anti-oligomer, Anti-seeding, and Disaggregation Activities
Jessica S. Fortin[1], Eduardo Ramirez[1], Susantha K. Ganegamage[1], Henika S. Patel[2], Adedayo Ogunware[3], German Plascencia-Villa[3], Heba Alhakhala[4], Arati Tripathi[4], Naseem H. Alfadhl[1], Ulf Dettmer[4], Cristian Lasagna-Reeves[2], and George Perry[3]
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Exploring the Impact of Signal Peptide Region on Amylin Misfolding as Potential Target for Alzheimer's Disease Treatment
Natalie G. Horgan and Jessica S. Fortin
Basic Medical Sciences, College of Veterinary Medicine, Purdue University, West Lafayette IN

Poster 150 - Abstract 245
Examination of Autophagy, Vascular Integrity, and Cognitive Decline
Elaine L. Bearer, Mohsen Ranjbar, Karen S. SantaCruz, and Gary A. Rosenberg
Department of Pathology, University of New Mexico Health Sciences Center, Center for Memory and Aging, University of New Mexico Health Sciences Center, Albuquerque, NM

Nutrition and Disease – Poster Session

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Intermittent Fasting Improves Colonic Immune Response in TNBS-induced Colitis Experimental Model
Abdelouafi Benmouloud
University of M'hamed Bougara Boumerdes (UMBB), Houari Boumedienne University of Sciences and Technology (LRZA, FSB, USTHB), University of Algiers, Benkhedda, Algiers

Poster 152 - Abstract 247
Use of Structure-Activity Relationship (SAR) Studies to Design Region B Capsaicin Analogs with Robust Anti-cancer Activity
Reagan Light[1], Rama S. Gadapalli[2], John M Rimoldi[2], Jamie R. Friedman[3], Stephen D. Richbart[1], Justin C Merritt[1], Sarah L Miles[1] and Piyali Dasgupta[1]
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Anti-cancer Activity of Non-Pungent Region C Capsaicin Analogs
Kushal J. Modi[1], Rama S. Gadapalli[2], Austin T. Akers[1], Nicholas A. Nolan[1], Kathleen C. Brown[1], Kate W. Colclough[1], Sarah L. Miles[1], John M. Rimoldi[2], Mariusz Madej[3], and Piyali Dasgupta[1].
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Tissue-based Analysis – Poster Session

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Insights into the Distribution of P-glycoproteins in Adult *Toxocara canis* using RNASCOPE
Theresa A. Quintana and Jeba Rose Jesudoss Chelladurai
Department of Diagnostic Medicine/Pathobiology, Kansas State University College of Veterinary Medicine, Manhattan, KS

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Clearing the Way: Non-toxic Clearing and Labelling with Fluorescent REAfinity Antibodies for the Enhanced 3D Visualization of Tissues and Organs
Kevin Bigott, Johanna Werheid, Daniel Barleben, Kira Gerhold, Lea Bornneman, Florian Kuster, Diogo Bessa-Neto, Simon Merz, Dmytro Yushchenko, Jonathan Fauerbach, Lutz Haalck, Gernolt Elbel, Christian Dose, Andreas Bosio, Melanie Jungblut, Dominik Eckardt, Lena Nolte, and Kyle Kern
Miltenyi Biotec Inc, San Diego, CA

Vascular Biology – Poster Session

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Glypican 1 and Intracellular Calcium Levels in Lung Endothelial Cells
Joaquin Lopez Rosales, Joao Luis Carvalho-de-Souza, Andreia Zago Chignalia
Department of Anesthesiology, The University of Arizona, College of Medicine-Tucson, Tucson, AZ

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The Histone Modification H3K4me2 and the DNA Demethylase TET2 Coordinately Regulates Microvascular SMC Recruitment and Coverage During Hindlimb Ischemia-induced Angiogenesis
Maryam Alanjawi[1], Mingjun Liu[1], Cristina Espinosa-Diez[1,2], Jianxin Wei[1], Shuai Yuan[1,3], Panagiotis Koutakis[4], Luke Brewster[5], Adam Straub[1,3], and Delphine Gomez[1,2]
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PECAM-1 Blockade Modulates Leukocyte Extravasation into the Subcortex after Ischemic Stroke and Reperfusion
Erika Arias[1], Neil A. Nadkarni[3], Maureen E. Haynes[1], Ayush Batra[2], William A. Muller[1], and David P. Sullivan[1]
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Characterizing the Relationship Between Hypoxia, Inflammatory Cell Infiltrate, and Angiogenesis in a Murine Model of Type II Diabetic Wound Healing
Michael R. Grynyshyn and Douglas W. Hamilton
Department of Anatomy and Cell Biology, University of Western Ontario, London, Ontario, Canada

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The Inhibition of the Alpha7-nicotinic Acetylcholine Receptor Blocks Retinal Angiogenesis: Potential Applications in ARMD and Diabetic Retinopathy
Justin C. Merritt[1], Aaron M. Dom[1], Adam W. Buckley[1], Kathleen C. Brown[1], Richard D. Egleton[1], Aileen J. Marcelo[1], Nancy A. Proper[1], Donald E. Weller[2], Yashoni H. Shah[3], and Piyali Dasgupta[1]
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Endocrine Disrupting Chemical Bisphenol A Exposure Induced Testicular Toxicity in Gerbils: Histopathological Evaluation
Abdelouafi Benmouloud[1,2,3], Lilia Kacimi[2,3], Nawel Aknoun-Sail[2,3], Yamina Zatra[2,3,4], Salima Charallah[2,3], and Mounira Khaldoun[2,3]
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Dimethyl Fumarate Inhibits VEGF-Driven Angiogenesis of Human Retinal Endothelial Cells
Daisy Y. Shu, Mong Linh Vuong, Alena C. Appiah, Pei Qin Ng, Menglu Yang, Zhengping Hu, Suman Chaudhary, Margarete M. Karg, Anton Lennikov, and Leo A. Kim
Schepens Eye Research Institute of Mass Eye and Ear, Department of Ophthalmology, Harvard Medical School, Boston, MA

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Endomucin Deletion Leads to Reduced Pathological Retinal Neovascularization
Zhengping Hu[1], Issahy Cano[1], Anton Lennikov[1], Melissa Wild[1], Urvi Gupta[3], Magali Saint-Geniez[4], Yin Shan Eric Ng[5], and Patricia A. D'Amore[1,2]
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Wound Healing – Poster Session

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Increased Wound Healing Rates in P-glycoprotein Deficient Intestinal Cells
Summer Johnson, MaKenna DeYoung, Mikayla Spangler, and Scott Tanner
Department of Natural Sciences and Engineering, USC Upstate, Spartanburg, SC

Poster 165 - Abstract 260
The Extracellular Microenvironment Modulates Fibronectin Matrix Formation by Cortical Astrocytes
Yu Sun and Jean E. Schwarzbauer,
Department of Molecular Biology, Princeton University, Princeton, NJ

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Age-related Deterioration of the Dermal Extracellular Matrix Microenvironment Promotes Skin Cancer Development
Taihao Quan, Alexandre Ermilov, John J. Voorhees, Andrzej A. Dlugosz, and Gary J. Fisher
Department of Dermatology, University of Michigan, Ann Arbor, MI

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Investigating Oxidative Stress in Human Chronic Wounds

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