

2020 ANNUAL MEETING

From Microbiota to Artificial Intelligence:

Emerging Technologies and Approaches for Discovering Mechanisms of Pathobiology

AWARDS | NETWORKING | SCIENCE

APR. 4-7, 2020 | SAN DIEGO, CA

American Society for Investigative Pathology 2020 MEETING PROGRAM

SATURDAY, APRIL 4, 2020

Symposium: Single Cell Transcriptome and Epigenome Analysis, Using the Power of One to Interrogate Heterogeneity

8:30 AM - 11:30 AM • **SDCC, Room 3**

Chair: Philip Iannaccone, MD, PhD • Northwestern University Medical School

Co-Chairs: Qin Yan, PhD • Yale School of Medicine

David C. Williams, Jr., MD, PhD • University of North Carolina, Chapel Hill

Session Description: Recent advances in transcriptomics have shown that gene expression states vary tremendously from cell to cell. This variation is essential in development where the specification of fate depends on controlled heterogeneity. In cancer, genetic and epigenetic changes results in highly heterogeneous expression states despite clonal origins. This session will present the emerging single-cell technologies in transcriptomics and epigenomics, data analysis pipeline, and the biological significance of these data.

- Chair Welcome and Introductions
- 8:30 AM 9:15 AM

Single-Cell Genomics in Cancer Immunotherapy

Ansu Satpathy, MD, PhD • Stanford University

• 9:15 AM - 10:00 AM

Single Cell Epigenomic Analysis of the Anatomy and Neuronal Circuitry of the Brain Joseph Ecker, PhD • Salk Institute

• 10:00 AM - 10:45 AM

Integrative RNA and Chromatin Analysis of Single Cells in Human Tissues

Kun Zhang, PhD • Salk Institute

• 10:45 AM - 11:30 AM

Methods for Calibration, Imputation, Visualization and Differentiation Between Samples in scRNA-seq Data Analysis

Yuval Kluger, PhD • Yale University

Questions and Answers

Minisymposium: Pathobiology of Cancer I

8:30 AM - 10:30 AM • SDCC, Room 4

Chair: Co-Chairs:

Presentation	Presenting	Abstract Title	Abstract
Time	Author		No.
8:30 AM -	A. Sougiannis	Natural Anthraquinone Emodin May Protect Immune and Gastrointestinal Health	520
8:45 AM		During Chemotherapy Treatment	
8:45 AM -	N. Naydenov	Annilin regulates breast cancer cell migration, growth and metastasis by non-	2266
9:00 AM	-	canonical mechanisms involving control of cell stemness and differentiation	
9:00 AM -	K. Jimenez	Inhibition of Src, SIRT1 or HDAC6 Reduces Transendothelial Migration of Acute	2452
9:15 AM	Camacho	Lymphoblastic Leukemia B cells	
9:15 AM -	A. Almazyad	Semaphorin 3F: A Novel Biologic Treatment for Oral Squamous Cell Carcinoma	2668
9:30 AM			

9:30 AM -	T. Bui	Neutrophils Deregulate Tumoral DNA Damage Response and Contribute to Non-	4179
9:45 AM		Homologous End-Joining (NHEJ)-dependent Survival of Colorectal Cancer	
9:45 AM -	A. Fishbein	Chemoprevention of Aflatoxin B1-Induced Cytokine Storm and Tumor Dormancy	5922
10:00 AM		Escape via Dual COX-2/sEH Inhibition	
10:00 AM -	S. Verheul	Stimulation of Resolution of Inflammation via Pro-Resolving Lipid Mediators	5923
10:15 AM		Prevents Ethanol-Induced Tumor Growth	
10:15 AM -	K. Wadosky	Ezh2 loss is a haploinsufficient mediator of cell lineage in prostate cancer and	5981
10:30 AM		has divergent effect on androgen receptor expression	

Symposium: The Gut Microbiota and Disease - Session I

8:30 AM - 11:30 AM • **SDCC, Room 2**

Chair: Xiao-Ming Yin, MD, PhD • Indiana University School of Medicine

Co-Chairs: Wenke Feng, PhD • University of Louisville

Maria Pilar Alcaide, PhD • Tufts University School of Medicine

José Otero, MD, PhD • The Ohio State University

Session Description: Humans carry a vast number of bacteria and other microbiota species from birth, and you may be more bacteria than you are you. An increasing importance of microbiota in human health and diseases has been recognized. Whatever your research subjects are, chances are that they may be influenced by the microbiota. This symposium will discuss the impact of gut microbiota on diseases ranging from neurodegeneration to diabetes, from the liver to the heart, and from the immune cells to the bone.

- Chair Welcome and Introductions
- 8:30 AM 9:00 AM

Gut Microbiota, Bile Acids Receptor, and Metabolism John YL Chiang, PhD • Northeast Ohio Medical University

• 9:05 AM - 9:35 AM

Hepatic Autophagy, Microbiota, and Liver Injury Xiao-Ming Yin, MD, PhD • Indiana University

9:40 AM - 10:10 AM

*Gut Microbiota, Fatty Liver Disease, and Hepatocellular Carcinoma*Bernd Schnabl, MD • University of California, San Diego

• 10:15 AM - 10:45 AM

*Intestinal Barrier Function and Metabolic Liver Disease*Wenke Feng, PhD • University of Louisville

• 10:50 AM - 11:20 AM

Fecal Transplantation and Immune Regulation in Liver Disease
Shirish Barve, PhD • University of Louisville

• 11:25 AM - 11:30 AM *Closing Remarks*

Minisymposium: Pathobiology of Cardiovascular Disease

8:30 AM - 10:30 AM • SDCC, Room 5A

Chair: Co-Chairs:

Presentation	Presenting	Abstract Title	Abstract
Time	Author		No.
8:30 AM -	M. Shoykhet	Differential regulation of cardiomyocyte cohesion by signaling pathways involve	694
8:45 AM	-	ERK1/2 or Plakoglobin	
8:45 AM -	S. Rajalingam	Deletion of the Microtubule-associated protein tau (Mapt-/-) results in diastolic	2885
9:00 AM		heart failure and altered skeletal muscle function in vivo	
9:00 AM -	J. Powers	Cardiac-specific Deletion of Filamin C Decouples Myocyte Contractility and	4277
9:15 AM		Calcium Handling in Adult Mice	
9:15 AM -	F. Carrillo-	Gut Dysbiosis Induced by Cardiac Pressure Overload Promotes T Cell Activation	4396
9:30 AM	Salinas	and Adverse Cardiac Remodeling Through Alterations in the Aryl Hydrocarbon	
		Receptor Expression	
9:30 AM -	R. Mitra	High Fat Diet versus Disturbed Blood Flow Conditions: Implications for	5944
9:45 AM		Endothelial Glycocalyx Integrity and Pre-Atherosclerotic Inflammation	
9:45 AM -	M. Kowara	The influence of high fat, high cholesterol diet on expression of myocardial	6157
10:00 AM		remodelling biomarkers in the mouse model of atherosclerosis ApoE-/-	
10:00 AM -	M. Alsahly	Relative Profibrotic Gene Expression in Cardiac Fibroblasts from Low Aerobic	7377

10:15 AM		Capacity "Disease Prone" Rats Following Ischemic Reperfusion	
10:15 AM -	E. Kwan	Investigating the effects of Progressive Right Ventricular Remodeling on Systolic	7388
10:30 AM		and Diastolic RV Function in a Longitudinal Animal Model Study of Pulmonary	
		Arterial Hypertension	

ASIP Highlights Session: I Am An ASIP Member and This Is My Science

11:00 AM - 1:30 PM • San Diego Marriott Marquis & Marina • Marina Ballroom, Salon G

Sponsored by the ASIP Committee for Career Development and Diversity

Chair: Edward A. Medina, MD, PhD • University of Texas Health Science Center

Co-Chairs: Titus A. Reaves, PhD • Medical University of South Carolina

Nakisha Rutledge, BSc • Northwestern University

Session Description: As a Society, we cannot escape the identity crisis we have confronted in the past - what is pathology and how do pathologists fit into the basic framework of biomedical science? This is an ongoing challenge that requires our members to educate others regarding the nature of the discipline of experimental pathology and how our research describes and investigates the pathology, pathogenesis, and pathophysiology of specific diseases at the molecular, cellular, organ, and organismal level. Overcoming this identity crisis requires effort on the part of each ASIP member and our success will be evident as we continue to attract bright and enthusiastic young investigators into the diverse field of experimental pathobiology.

The American Society for Investigative Pathology presents I Am An ASIP Member and This Is My Science a dynamic and inspiring session featuring ASIP Scientists on the Cutting Edge of Discovery briefly, present their research, accomplishments, career journeys, and service to ASIP. This session highlights the diversity among our membership, and provides trainees, young scientists, pathologists, and the members of the larger scientific community the opportunity to become inspired by Trailblazers in the field of investigative pathology.

Chair - Welcome and Introductions

11:00 AM - 11:30 AM Lunch, Networking, and Poster Viewing

ASIP's Trailblazing Women:

11:30 AM - 12:10 PM

• 11:30 AM - 11:35 AM

Repairing the Body's Traveling Bag: My Path From Thin to Thick Skin Cecelia C. Yates, PhD • University of Pittsburgh

• 11:35 AM - 11:40 AM

Bench to Bedside: Bridging The GapKelsey Dillehay McKillip, PhD • University of Cincinnati

• 11:40 AM - 11:45 AM

Understanding Aggressive Breast Cancer Phenotypes

Celina Kleer, MD • University of Michigan

11:45 AM - 11:50 AM **Staying in the PINK1 for Neuroprotection and Beyond**

Charleen Chu, MD, PhD • University of Pittsburgh

• 11:50 AM - 11:55 AM

My Career in Pathology: Serendipity and Society Support

Martha B. Furie, PhD • Stony Brook University

• 11:55 AM - 12:00 PM

Trailblazing or Bushwhacking? Uncovering Foam Cell Biology in an Unlikely Place Verónica Contreras-Shannon, PhD • St. Mary's University

• 12:00 PM - 12:05 PM

It's a Wonderful Life: Being a Physician Scientist in Clinical Pathology Robinna Lorenz, MD, PhD • Genentech, Inc.

12:05 PM - 12:10 PM

It's Been All Growth Factors, All the Time

Patricia A. D'Amore, PhD, MBA • Massachusetts Eye & Ear/Harvard Medical School

12:10 PM - 12:45 PM

Lunch, Networking, and Poster Viewing

ASIP's Trailblazing Men:

12:45 PM - 1:10 PM

12:45 PM - 12:50 PM

Probing the Many Secret Lives of the Flesh-Eating Pathogen: A Ridiculous, Misguided, and Fulfilling Walk James Musser, MD, PhD • Houston Methodist Hospital

12:50 PM - 12:55 PM

Resolvin Cancer

Dipak Panigrahy, MD • Harvard Medical School

12:55 PM - 1:00 PM

e Combination: My Pathway to Translational Biophysics

David C. Williams, Jr., MD, PhD • University at North Carolina at Chapel Hill

• 1:00 PM - 1:05 PM

 ${\it Chromosome \ Variations \ in \ the \ Liver-Cool, \ But \ Why \ Should \ We \ Care?}$

Andrew Duncan, PhD • University of Pittsburgh

• 1:05 PM - 1:10 PM

Studying Oxygen Sensing in Cancer: My Personal Journey

Qing Zhang, PhD • UT Southwestern Medical Center

1·10 PM - 1·15 PM

Transforming Patient's Lives With Science: It Takes a Village

Cary Austin, MD, PhD • Genentech

1:15 PM - 1:20 PM

My Personal Mexican Standoff: Reckoning Diabetic Vasculopathy

Roberto Ivan Mota Alvidrez, MD, MS • UT Southwestern Medical Center

1:20 PM - 1:25 PM

Making the Most of Rejection: Lessons Learned from Transplant Pathology

Richard Mitchell, MD, PhD • Brigham and Women's Hospital and Harvard Medical School

• 1:30 PM

Session Photo

Symposium: Disease Modeling with iPSC: From Cells to Organoids

2:00 PM - 5:00 PM • SDCC, Room 3

Chair: Philip M. Iannaccone, MD, PhD • Northwestern University Medical School

Co-Chairs: Satdarshan Paul Singh Monga, MD • University of Pittsburgh

Ivana Delalle, PhD, MD • Boston University School of Medicine

Session Description: The availability of human iPSC from various disease states presents an unprecedented opportunity to examine pathology and physiology in an intact tissue context. The decades since the early descriptions of stem cell derived "embryoid bodies", the first example of "organoids", have seen major advances in directed differentiation of stem cells and their organization into small structures mimicking normal organs. Organoids can be used to interrogate altered physiology and toxicology or as test beds for therapeutic intervention. Patient derived iPSC have been used to advance our understanding of many aspects of disease states. This session will highlight recent advances in both organoids and the use of directed differentiation of human iPSC in the study of disease.

- Chair Welcome and Introductions
- 2:00 PM 2:35 PM

Cellular Regenerative Components in Liver Disease

George Michalopoulos, MD, PhD • University of Pittsburgh

• 2:35 PM - 3:10 PM

Emergence of Sophisticated Network and Oscillations in a Human Brain Organoid Model

Alysson Muoti, PhD • University of California, San Diego

• 3:10 PM - 3:45 PM

iPSC-Derived Hepatocytes to Model Ebola Virus Infection

Gustavo Mostoslavsky, MD, PhD • Boston University School of Medicine

• 3:45 PM - 4:20 PM

Stem Cell Models of Hematopoiesis

Vasil Galat, PhD • Northwestern University

4:20 PM - 4:55 PM

Modeling Genetic Epilepsies with Human iPSCs and Brain Organoids

Jenny Hsieh, PhD • University of Texas, San Antonio

• Questions and Answers

Symposium: The Gut Microbiota and Disease - Session II

2:00 PM - 5:00 PM • SDCC, Room 2

Chair: Xiao-Ming Yin, MD, PhD • Indiana University School of Medicine

Co-Chairs: Wenke Feng, PhD • University of Louisville

Maria Pilar Alcaide, PhD • Tufts University School of Medicine

José Otero, MD, PhD • The Ohio State University

Session Description: Humans carry a vast number of bacteria and other microbiota species from birth, and you may be more bacteria than you are you. An increasing importance of microbiota in human health and diseases has been recognized. Whatever your research subjects are, chances are that they may be influenced by the microbiota. This symposium will discuss the impact of gut microbiota on diseases ranging from neurodegeneration to diabetes, from the liver to the heart, and from the immune cells to the bone.

- Chair Welcome and Introductions
- 2:00 PM 2:30 PM

Gut Microbiome and Cancer or Immune Response

Giorgio Trinchieri, MD, PhD • National Cancer Institute

2:35 PM - 3:05 PM

The Microbiome-Brain-β Cell Axis in Metabolic Syndrome

Rachel J. Perry PhD • Yale School of Medicine

3:10 PM - 3:40 PM

Dietary Metabolism, the Gut Microbiome and Cardiovascular Health

Wai Hong Wilson Tang, MD • Cleveland Clinic Lerner College of Medicine/Case Western Reserve University

• 3:45 PM - 4:15 PM

Gut Microbiota and Neurodegeneration

Ali Keshavarzian, MD • Rush University Medical Center

• 4:20 PM - 4:50 PM

A Gut Microbiota Dysregulates Osteoimmune Cross Talk in Postpubertal Skeletal Development

Chad M. Novince, PhD, DDS • Medical University of South Carolina College of Dental Medicine

• 4:55 PM - 5:00 PM

Closing Remarks

Minisymposium: Neuropathobiology

2:00 PM - 5:00 PM • **SDCC, Room 5A**

Chair: Co-Chairs:

Presentatio n Time	Presenting Author	Abstract Title	Abstract No.
2:00 PM -	Y. Chang	Loss-of-Function Aldolase C Hypermethylation Cause Serotonin Production in	332
2:15 PM		Glioblastoma	
2:15 PM -	V. Khammad	Machine learning applications in R for the differentiation of primary CNS tumors	1778
2:30 PM			
2:30 PM -	K. Belsare	Interaction of sTREM2 with Amyloid Beta: Implication on the Protective Role of	1844
2:45 PM		sTREM2 in Alzheimer's Disease	
2:45 PM -	C. Chu	Chemical Inhibition of PTEN-Induced Kinase 1 (PINK1) Degradation Confers	1984
3:00 PM		Neuroprotection in Culture Models of Parkinson's Disease	
3:00 PM -	A. Mondal	Essential role of NFATC4-S-palmitoylation to promote IP3R1-expression	2484
3:15 PM		required for lysosomal Ca++ homeostasis dysregulated in INCL mice	
3:15 PM -	V. Kulchitsky	Antitumor Effects of Mesenchymal Stem Cells	2700
3:30 PM			
3:30 PM -	E. Saito	Metabolic RNA-seq profiles from sporadic Alzheimer's disease patients: Analysis	3717
3:45 PM		of glycolytic and ketolytic pathways	

3:45 PM - 4:00 PM	W. Chen	Magnetic and Ultrasonic Guidance of Iron-Platinum Nanoparticles Encapsulated in Multifunctional Lipid Bubbles for Conquering the Blood-Brain Barrier with Improved Theranostics	3808
4:00 PM - 4:15 PM	K. Oberman	Mixed Effects Of Active Immunization Against Aß In An Alzheimer Mouse Model	5087
4:15 PM - 4:30 PM	E. Bearer	Brain connectivity and activity during Alzheimer's disease progression in a mouse model by manganeseenhanced MRI in living brain correlated with postmortem histopathology	6114
4:30 PM - 4:45 PM	V. Suryadevara	A First Report of altered bone microarchitecture in a commonly used mouse model of Alzheimer Disease (5XFAD Tg+)	6700
4:45 PM - 5:00 PM	J. Callender	Manipulating PrP Glycan Structure to Understand Toxic Signaling Pathways Driving Prion-Induced Neurodegeneration	8717

Women in Pathology Social and Networking Event

5:00 PM - 7:00 PM • SDCC, Room 4

Chair: Linda McManus, PhD • University of Texas Health Science Center Co-Chairs: Maria Pilar Alcaide, PhD • Tufts University School of Medicine

Nakisha Rutledge, BSc • Northwestern University

Social Description: Women in Pathology is a new community within the membership of the American Society for Investigative Pathology (ASIP) that is focused on issues that face women in science, and is committed to recognizing women's scientific achievements and fostering their career development and advancement in pathobiology research. Women in Pathology will address challenges for women in science at every stage of career and life – as trainees, as active biomedical researchers, during transitions into career breaks required for family life, during transitions back into professional life as a mother, and as advanced investigators. Women in Pathology will provide innovative opportunities for engagement by women in science to participate in productive networking, development of meaningful professional partnerships, and mentoring.

EB-Wide Tang Prize Award Lecture

6:00 PM - 7:00 PM • **SDCC, Room**

• Tyrosine Phosphorylation - From Discovery to Drug Development and Beyond Tony Hunter, PhD • Salk Institute for Biological Studies

EB-Wide Welcome Reception

7:00 PM - 8:30 PM • SDCC, Sails Pavilion

Reception Description: Join your fellow attendees at the conference-wide reception to meet, greet, and mingle. Appreciate the power and energy of the EB Meeting as all career levels come together for fun, socialization, and networking.

The AJP Editorial Board Dinner

7:00 PM - 9:00 PM

SUNDAY, APRIL 5, 2020

ASIP Committee for Career Development and Diversity (CCDD) and Education Committee Meeting

7:00 AM - 8:00 AM • SD Marriott Marquis & Marina • Del Mar Meeting Room

Histochemical Society Leadership Meeting

8:00 AM - 9:00 AM • SDCC, Room 5B

Blood Vessel Club™ : Gut Microbiota in Vascular Disease

8:00 AM - 10:30 AM • **SDCC, Room 3**

Sponsored by the ASIP Inflammation/Immunopathology Scientific Interest Group and the Vascular and Mucosal Pathobiology Scientific Interest Group

Chair: Jonathon W. Homeister, MD, PhD • University of North Carolina at Chapel Hill

Co-Chair: Denuja Karunakaran, PhD • The University of Queensland

Session Description: This symposium explores the newest discoveries into the role the gut microbiome has in the pathobiology of vascular diseases. Presentations by national and international experts in the field will focus on the mechanisms by which the gut microbiome can modulate both atherosclerotic vascular disease and hypertensive vascular disease.

- Chair Welcome and Introductions
- 8:00 AM 8:45 AM

The Role of Gut Microbiota-Derived Metabolites in Blood Pressure RegulationDavid Durgan, PhD • Baylor College of Medicine

• 8:45 AM - 9:30 AM

A Dysfunctional Gut-Brain Axis in Hypertension

Mohan Raizada, PhD • University of Florida

• 9:30 AM - 10:15 AM

Role of the Gut Microbiota in Atherosclerotic Cardiovascular Disease
Debby PY Koonen, PhD • University Medical Center Groningen, The Netherlands

• Questions and Answers

Young Scientist Leadership Award Lecture [Presented in conjunction with the Blood Vessel Club™ :: Gut Microbiota in Vascular Disease Session]

10:30 AM - 11:00 AM • SDCC. Room 3

- Chair Intoduction
- 10:30 AM 11:00 AM

RIP Kinases in Cardiometabolic Diseases

Denuja Karunakaran, PhD • The University of Queensland, Brisbane, Australia

Breast Cancer Workshop - Tumor Microenvironment in Breast Cancer Progression

8:00 AM - 10:00 AM • SDCC, Room 2

Sponsored by the ASIP Breast Cancer Scientific Interest Group

Chair: Bethany Hannafon, BS, PhD • University of Oklahoma Health Sciences Center

Co-Chair: Pivali Dasgupta, PhD • Marshall University

Session Description: This session will examine the role of the tumor microenvironment in primary breast cancer development to metastatic dissemination and therapeutic resistance. Attendees will hear from leaders in the breast cancer field about tumor-host crosstalk mediated by extracellular vesicles, the role of the immune microenvironment in cancer progression, tumor cell dormancy and its role in therapeutic resistance, and the role of the lymph node tumor microenvironment in the progression of lymph node breast cancer metastases.

- Chair Welcome and Introductions
- 8:00 AM 8:30 AM

Cancer - Host Crosstalk Through Extracellular miRNA

Shizhue Emily Wang, PhD • University of California, San Diego

• 8:30 AM - 9:00 AM

Disseminated Tumor Cell Dormancy and Therapeutic Resistance

Cyrus Ghajar, PhD • Fred Hutchinson Cancer Research Center

• 9:00 AM - 9:30 AM

Neutralizing Protumor Inflammation: Lessons Learned from Preclinical Mouse ModelsLisa Coussens, PhD • Oregon Health & Science University

9:30 AM - 10:00 AM

Lymph Node Metastases Induce Loss of High Endothelial Venules and Lack of Lymphocyte InfiltrationDennis Jones, PhD • Boston University School of Medicine

• Questions and Answers

Outstanding Investigator Award Lecture [Presented in conjunction with the Breast Cancer Workshop] 10:00 AM - 10:30 AM • SDCC, Room 2

- Intoduction
- 10:00 AM 10:30 AM

Understanding Breast Cancer: My Journey as a Physician-ScientistCelina Kleer, MD • University of Michigan

Society of Toxicologic Pathology (STP) Symposium: Animal Models in Basic Research and Preclinical Science: The Critical Role of the Toxicologic Pathologist

8:30 AM - 11:30 AM • SDCC, Room 5A

Sponsored by the ASIP Environmental and Toxicologic Pathology Scientific Interest Group

Chair: Mark Hoenerhoff, DVM, PhD • University of Michigan Co-Chair: Jack Harkema, PhD, DVM • Michigan State University

Session Description: Veterinary toxicologic pathologists play an integral role in biomedical and basic sciences, through translation of preclinical in vivo data for the study of human disease, development of new technologies and medical interventions, and drug development. Toxicologic pathologists also play a role in determination of chemical/drug adversity in animals and humans, and help predict relevance to humans taking into account mechanisms and margin of safety. Working with researchers, clinicians, and toxicologists, toxicologic pathologists can help facilitate a better understanding of disease processes through interpretation of animal models, drug development, and improve translatability of preclinical data in the "bench to bedside" approach to patient care. Through expanding interdisciplinary collaborations with the human medical field and other disciplines, toxicologic pathologists are central to the "One Health" concept at the intersection of all aspects of health care for humans, animals, and environmental health. This session will showcase the role veterinary toxicologic pathologists play in basic research, investigative pathology, drug development, and imaging modalities to strengthen translatability of animal data to the clinic in collaboration with other scientists. This session will also highlight how toxicologic pathologists can inform on the validity, use, relevance, and power of animal models to study human disease.

- Chair Welcome and Introductions
- 8:30 AM 9:15 AM

How Toxicologic Pathologists Can Improve the Translatability and Reproducibility of Animal Models Tom Rosol, DVM, PhD, DACVP • Ohio University, College of Osteopathic Medicine

9:15 AM - 10:00 AM

Innate Lymphoid Cell Mediation of Ozone-induced Non-allergic Asthma

Jack Harkema, DVM, PhD, DACVP • Michigan State University College of Veterinary Medicine

10:00 AM - 10:45 AM

Translational Rodent Models of Chronic Kidney Disease in Translational Medicine Kendall Frazier, DVM, PhD, DACVP • GlaxoSmithKline

10.45 AM - 11.30 AM

*In-Vivo Imaging to Improve Translatability of Preclinical Research in Drug Development*Martin Guillot, DVM, MSc, PhD • Charles River Laboratories, Montreal

Questions and Answers

Symposium: The Great Debate - Fibrosis Across Organs: Triggers, Pathways, and Cellular Plasticity

8:30 AM - 11:30 AM • SDCC, Room 4

Co-Sponsored by the American Society for Matrix Biology (ASMB)

Chair: Titus A. Reaves, PhD • Medical University of South Carolina
Co-Chair: Tirthadipa Pradhan-Sundd, PhD • University of Pittsburgh

Session Description: Fibrosing diseases are a broad spectrum of entities from organ-specific involvement to multi-system diseases with high morbidity and mortality and significantly unmet clinical needs. Progress in elucidating the pathogenesis of the fibroproliferative components across various diseases, including the critical roles of key cell types and the molecular

mechanisms driving the transcriptional activation involved in the induction of fibrosis, has highlighted many new areas of therapeutic investigation and are currently underway. This session is designed to bring together translational biomedical researchers from a wide range of disciplines to discuss complex pathophysiologic mechanisms that underlie fibrosing diseases. You won't want to miss the hot topic debate on Power Cell – Fibroblast or Macrophage that will follow the session talks.

- Chair Welcome and Introductions
- 8:30 AM 9:05 AM

Fibrosis in PDA Initiation and Progression Collagen Activation of DDRs as a Driver of Fibrosis and Cancer Progression

Rolf A. Brekken, PhD • UT Southwestern Medical Center

• 9:05 AM - 9:40 AM

Origin of Fibrosis in the Central Nervous System

Jae K. Lee, PhD • University of Miami Health System

• 9:40 AM - 9:55 AM

Toward Personalized TGF\$\beta\$ Inhibition for Cancer

Huocong Huang, MD, PhD • UT Southwestern Medical Center

9:55 AM - 10:30 AM

Macrophage-Fibroblast Interactions in Fibrotic Processes

Bryan Brown, PhD • McGowan Institute for Regenerative Medicine

• 10:30 AM - 11:05 AM

Heterocelluar Crosstalk in Skin Fibrosis

Cecelia C. Yates, PhD • University of Pittsburgh

• 11:05 AM - 11:30 AM

State of Science Debate: Power Cell - Fibroblast or Macrophage

• Questions and Answers

Poster Viewing - Pathology, Pathogenesis, and Pathobiology

9:00 AM - 4:00 PM • SDCC, Exhibit Halls A-D

- Cancer I
- Inflammation and Disease
- Liver Pathobiology I
- Mucosal/Epithelial Pathobiology
- Neuropathology
- Stroke
- The Science of Diabetes

Planning for Success: Navigating Your First Faculty Position

11:00 AM - 1:00 PM• **SD Marriott Marquis & Marina • Carlsbad Cardiff** Sponsored by the ASIP Committee for Career Development and Diversity

Chair: Christi Kolarcik, PhD • University of Pittsburgh

Co-Chair: Traci Parry, PhD • University of North Carolina at Greensboro

Session Description: Feeling overwhelmed as you wrangle your first faculty position? Come hear from our experienced faculty as they impart valuable advice and tactics on successfully planning, transitioning into, adapting, (and surviving!) your first years as a faculty member.

- Chair Welcome and Introductions
- 11:00 AM 11:30 AM

Planning is Good: Adapting is Even Better

Richard Mitchell, MD, PhD • Brigham and Women's Hospital/Harvard Medical School

• 11:30 AM - 12:00 PM

The Sad and Mistaken Fallacy of Planning for Success

James Musser, MD, PhD • Houston Methodist Hospital

• 12:00 PM - 12:30 PM

The Trouble With Saying Yes Too Quickly and Not Saying No Soon Enough

Abigail Cox, PhD, DVM • Purdue University

• 12:30 PM - 1:00 PM

The Five Stages of Transitioning Into Your First Faculty Position

Verónica Contreras-Shannon, PhD • St. Mary's University

Questions and Answers

Symposium: Fixing Fatty Liver

2:00 PM - 5:00 PM • SDCC, Room 2

Sponsored by the ASIP Liver Pathobiology Scientific Interest Group

Chair: Kari Nejak-Bowen, MBA, PhD • University of Pittsburgh

Session Description: In this session, we will approach the problem of non-alcoholic fatty liver disease (NAFLD) through improved understanding of the cellular and molecular mechanisms involved in disease progression. Recent advances in gutliver axis, microbiome, and inflammation in the pathogenesis of NAFLD will be also discussed. Finally, we will explore novel signaling pathways that can be targeted for treatment of NAFLD.

- Chair Welcome and Introductions
- 2:00 PM 2:30 PM

Cholesterol and Bile Acid Metabolism in Fatty Liver Disease

Tiangang Li, PhD • University of Kansas Medical Center

• 2:30 PM - 3:00 PM

Bile Acid Receptors and NAFLD

Huiping Zhou, PhD • Virginia Commonwealth University

• 3:00 PM - 3:30 PM

Gut Permeability in NASH: Role of Mucosal Immune Cells, Microbiota and Bile Acids

Reben Raeman, MS, PhD • University of Pittsburgh

• 3:30 PM - 4:00 PM

Microbiome and Alcoholic Liver Disease

Bernd Schnabl, MD • University of California San Diego

4:00 PM - 4:30 PM

Inhibition of EGFR Receptor Prevents and Reverses Extreme NAFLD

George K. Michalopoulos, MD, PhD • University of Pittsburgh

4:30 PM - 5:00 PM

Genetics and NASH

Rohit Loomba, MD, MHSc • University of California, San Diego

• Questions and Answers

Symposium: Novel Regulators and Functions of Epithelial Junctions

2:00 PM - 5:00 PM • SDCC, Room 4

Chair: Asma Nursat, MD • University of Michigan

Co-Chair: William Muller, MD, PhD • Northwestern University

Session Description: Epithelial junctions are key regulators of tissue integrity and homeostasis, and their compromise contributes to the pathogenesis of inflammatory and immune disorders. This symposium will highlight recent developments in this exciting area of research and will touch upon developmental and disease pathways. The talks will cover the role of intercellular junction proteins in a range of tissues, including simple and complex epithelia.

- Chair Welcome and Introductions
- 2:00 PM 2:45 PM

How Desmosomal Cadherins Help to Create Complex Epithelia

Kathleen Green, PhD • Northwestern University

2:45 PM - 3:30 PM

Regulation of Simple Epithelial Wound Repair by Desmosomal Cadherin, Desmocollin 2

Asma Nusrat, MD • University of Michigan

• 3:30 PM - 4:15 PM

Actin and Myosin-Dependent Regulation of Epithelial Apical Junctions: How Many Skeletons are in the Closet?

Andrei I. Ivanov, PhD • Lerner Research Institute of Cleveland Clinic Foundation

4:15 PM - 5:00 PM

Going In Circles Gets You Somewhere: Signaling Mechanisms That Coordinate Cell Movements For Epithelial Migration

Sally Horne-Badovinac, PhD • The University of Chicago

Questions and Answers

Pathobiology Course for Research Scientists: Resolution of Inflammation

2:00 PM - 5:00 PM • **SDCC**, **Room 5A**

Sponsored by the ASIP Education Committee

Chair: Dipak Panigrahy, MD • Beth Israel Deaconess Medical Center/Harvard Medical School

Co-Chair: Alexander Sougiannis, BS, MA • University of South Carolina School of Medicine

Session Description: Unresolved inflammation is a major mechanism of pathogenesis in many human diseases.

A paradigm shift is emerging in our understanding of the pathogenesis of inflammation which results not only from persistent activation of inflammatory signals, but also from the active loss of pro-resolution mechanisms. Differentiating between the suppression and resolution of inflammation driven by pro-resolution mediators is critical for the treatment of various inflammatory diseases.

- Chair Welcome and Introductions
- 2:00 PM 2:45 PM

Resolvins and Novel Pro-Resolving Mediators (SPM) are Immunoresolvent Agonists
Charles N. Serhan, PhD • Brigham and Women's Hospital/Harvard Medical School

• 2:45 PM - 3:30 PM

Protein Sulfhydration in Inflammation and the Resolution of InflammationIngrid Fleming, PhD • Goethe University, Institute for Vascular Signaling, Germany

• 3:30 PM - 4:15 PM

Investigating the Formation of Eicosanoids and Other Oxylipins By Means of LC-MS
Nils Helge Schebb, PhD • University of Wuppertal, Germany

4:15 PM - 5:00 PM

Epoxides of Fatty Acids and Soluble Epoxide Hydrolase Inhibitors Resolve Inflammation and Block SenescenceBruce D. Hammock, PhD • University of California, Davis

Questions and Answers

Symposium: Coagulation and Fibrinolytic Factors and Innate Immunity

2:00 PM - 5:00 PM • **SDCC, Room 3**

Chair: Wendy Mars, PhD • University of Pittsburgh Medical School
Co-Chair: Steven Gonias, MD, PhD • University of California, San Diego

Session Description: Proteins involved in both the coagulation and fibrinolysis pathways do much more than their well-described historical roles affecting the formation and dissolution of clots. This session will highlight data from leaders in the field who are studying the function of hemostasis factors in innate immunity.

- Chairs Welcome and Introductions
- 2:00 PM 2:45 PM

Coagulation Signaling in Immunity

Wolfram Ruf, MD • The Scripps Research Institute

• 2:45 PM - 3:30 PM

Fibrinogen and Innate Immunity in Neurological Disease

Katerina Akassoglou, PhD • University of California, San Diego

3:30 PM - 4:15 PM

 $The \ Role \ of \ Plasmin ogen/Plasmin \ in \ Experimental \ Polymic robial \ Sepsis$

Lirlândia Pires de Sousa, PhD • Universidade Federal de Minas Gerais

4:15 PM - 5:00 PM

Cellular Receptors for Fibrinolysis Proteins in Innate immunitySteven Gonias, MD, PhD • University of California, San Diego

Questions and Answers

Rous-Whipple Award Lecture

5:00 PM - 6:00 PM • **SDCC, Room 2**

- Chair Introduction
- Exploring Precision Oncology: From Gene Fusions to Genomic Instability
 Arul Chinnaiyan, MD, PhD University of Michigan

Scientific Interest Groups (SIGs) Interactive Poster Discussions, Networking Sessions, Award Presentations, and Reception

6:00 PM - 8:00 PM • TBD

Session Description: Interactive discussions of invited posters representing the Scientific Interest Groups (SIGs) of the ASIP

Club Hepatomania™ Meet the Liver Experts

7:00 PM - 8:00 PM • **SDCC, Ballroom BC**

Sponsored by the ASIP Liver Pathobiology Scientific Interest Group

Histochemical Society Business Meeting, Awards Presentation, and Reception

7:00 PM • Horton Grand Hotel Atrium

MONDAY, APRIL 6, 2020

ASIP Town Hall Meeting and Breakfast

7:00 AM - 8:00 AM • SDCC, Room 5A

Chair: Dani S. Zander, MD • University of Cincinnati Medical Center

Co-Chair: William B. Coleman, PhD • American Society for Investigative Pathology

Session Description: Are you a new member of the ASIP and want to become more involved? Are you interested in working with the ASIP leadership and committees? Join us for breakfast and open conversation in a casual enviorment where we network together with the common goal of building a stronger ASIP.

Minisymposium: Pathobiology of Lung Disease

8:30 AM - 10:30 AM • SDCC, Room 5A

Chair: Co-Chairs:

• Abstract-Driven Short Talks (15-minutes each)

Presentation Time	Presenting Author	Abstract Title	Abstract No.
8:30 AM - 8:45 AM	R. Nho	E-Cigar Vapor Alters Lung Fibroblast Viability via Alpha 7 Nicotine Acetylcholine Receptor	2627
8:45 AM - 9:00 AM	M. Chan	Upconversion Nanoparticles Induce Lung Inflammatory, Immunologic and Pulmonary Injury in Vivo	3801
9:00 AM - 9:15 AM	K. Hirschi- Budge	Acute eCig Vapor or SHS Exposure Induces Inflammatory Signaling in the Adult Murine Lung	4232
9:15 AM - 9:30 AM	K. Hendee	Mechanosensitive Mechanism of Lung Regeneration through Endothelial YAP1	4234
9:30 AM - 9:45 AM	E. Bontekoe	Upregulation of Inflammatory Biomarkers in Pulmonary Embolism as Studied by a Biochip- Array Profiling Approach	4578
9:45 AM - 10:00 AM	J. Dye	Differential Lung Responses to Early Life Ozone Exposure in Male and Female Rat Offspring	6436
10:00 AM - 10:15 AM	J. Goral	Characterization of Fibrotic Changes in the Lungs of Mice Following Oral Administration of 4NQO	6715
10:15 AM - 10:30 AM	M. Sunday	Hyperoxic Lung Injury in Newborn Mice is Abrogated by Neutralizing mAb 2A11 to Gastrin-Releasing Peptide (GRP)	6814

Symposium: Emerging Technologies From the Bench Disrupting Diagnosis and Care Near the Bedside

8:30 AM - 11:30 AM • SDCC, Room 2

Chair: Nathan Montgomery, MD, PhD • University of North Carolina, Chapel Hill

Co-Chair: Gregory J. Tsongalis, PhD • Dartmouth-Hitchcock Health System

Session Description: This session will explore emerging genomic and molecular diagnostic tools that are being rapidly adopted in patient care, in the process transforming and disrupting the standard approach to clinical challenges as diverse as newborn diagnostics, microbiology, and oncology.

- Chair Welcome and Introductions
- 8:30 AM 9:15 AM

Measuring More in Biology: Getting Signal Compression Do all the Hard Work Aditya Rajagopal, PhD • CalTech

• 9:15 AM - 10:00 AM

Host Response and Point-of-Care Nanopore Sequencing for Diagnosis of Infections: Changing the Paradigm Charles Chiu, MD, PhD • University of California, San Francisco

10:00 AM - 10:45 AM

Rapid Genomic Medicine in Pediatric ICUs: A New way of Practicing Medicine Stephen Kingsmore, MD, DSc • Rady Children's Institute for Genomic Medicine

• 10:45 AM - 11:30 AM

Precision Medicine: Where Time and Technology MeetGregory J. Tongalis, PhD • Dartmouth-Hitchcock Health System

• Questions and Answers

Symposium: Mechanisms of Hepatic Tumorigenesis

8:30 AM - 11:30 AM • SDCC, Room 3

Sponsored by the ASIP Liver Pathobiology Scientific Interest Group

Chairs: Satdarshan Paul Singh Monga, MD • University of Pittsburgh

Co-Chair: Heather Francis, PhD, FAASLD • Indiana University

Session Description:

• Chair - Welcome and Introductions

• 8:30 AM - 9:00 AM

Targeting Beta-Catenin in HCC: Efforts Towards Precision Medicine

Satdarshan Paul Singh Monga, MD • University of Pittsburgh

9:00 AM - 9:30 AM

Role of Methionine Adenosyltransferases in Liver Cancers: It's Not All About SAMe

Shelly Lu, MD • Cedars Sinai Medical Center

• 9:30 AM - 10:00 AM

Mechanism of Liver Metastasis Enhanced by Fatty Liver

Ekihiro Seki, MD, PhD • Cedars Sinai Medical Center

• 10:00 AM - 10:30 AM

mTORC2/Akt Signaling Cascade During Hepatic Carcinogenesis

Xin Chen, PhD • University of California, San Diego

• 10:30 AM - 11:00 AM

From PSC to Cholangiocarcinoma: The Role of Mast Cells and Inflammation

Heather Francis, PhD, FAASLD • Indiana University

• 11:00 AM - 11:30 AM

Deciphering the Anti-Oncogenic Effects of Pro-Oncogenic Molecules in the Liver

Gen-Sheng Feng, PhD • University of California, San Diego

• Questions and Answers

VAMP Symposium: Immune Regulation of Barrier Forming Cells

8:30 AM - 11:30 AM • SDCC, Room 4

Sponsored by the ASIP Vascular and Mucosal Pathobiology Scientific Interest Group

Chairs: Jennifer Brazil, PhD • University of Michigan

Co-Chair: Francis W. Luscinskas, PhD • Brigham & Women's Hospital

Session Description:

- Chair Welcome and Introductions
- 8:30 AM 9:30 AM

Intestinal Tuft Cells: Immune Sentinels and Effectors

Jakob von Moltke, PhD • University of Washington

9:30 AM - 10:30 AM

Type-2 Immunity at the Intestinal Epithelial Barrier

Simon Hogan, PhD • University of Michigan

• 10:30 AM - 11:30 AM

Intermittent Rolling is a Striking Defect of the Neutrophil Extravasation Cascade Caused by Myosin1e Deficiency Michael Schnoor, PhD • CINVESTAV, Mexico City, Mexico

• Questions and Answers

Poster Viewing - Pathology, Pathogenesis, and Pathobiology

9:00 AM - 4:00 PM • SDCC, Exhibit Halls A-D

- Cancer II
- Cell Death, Injury, and Repair
- Environmental and Toxicological Pathology
- Infectious Disease I
- Liver Pathobiology II
- Lung Pathobiology
- Vascular Biology

Cotran Early Career Investigator Award Lecture

10:00 AM - 10:45 AM • SDCC, Room 5A

- Chair Intoduction
- 10:00 AM 10:45 AM

Studying Oxygen Sensing Pathway in Cancers

Oing Zhang, PhD • UT Southwestern Medical Center

Workshop: Career Speed-Networking Luncheon: Conversations with Experts

11:00 AM - 1:00 PM • SD Marriott Marquis & Marina • San Diego Ballroom, Salon A

Sponsored by the ASIP Committee for Career Development and Diversity

Chair: Verónica Contreras-Shannon, PhD • St. Mary's University

Co-Chair: Morgan Preziosi, BS, BA • University of Pennsylvania Perelman School of Medicine

Session Description: From Academia to Patent Law, at this speed-networking lunch event, you'll have the chance to discuss diverse career opportunities, what skills you need to be successful in these careers, how to get your foot in the door, and so much more!

- Chair Welcome and Introductions
- TABLE 1 Science Administration and Society Involvement
 William B. Coleman, PhD American Society for Investigative Pathology
- TABLE 2 Molecular Diagnostics/Clinical Chemistry

Gregory J. Tsongalis, PhD • Dartmouth-Hitchcock Health System

• TABLE 3 - Government Positions

Allison M. Brady, PhD, MPH • Centers for Disease Control and Prevention

• TABLE 4 - Technology/Entrepreneur/Start-Ups

Alejandro Soto-Gutierrez, MD, PhD • University of Pittsburgh Bryan Brown, PhD • McGowan Institute for Regenerative Medicine

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• TABLE 5 - Scientific Editing and Writing

Chhavi Chauhan, PhD • American Society for Investigative Pathology Emily Essex • American Society for Investigative Pathology

• TABLE 6 - Biotechnology

Robinna Lorenz, MD, PhD • Genentech, Inc.

• TABLE 7 - Academic (Research and Teaching) Path

Diane Bielenberg, PhD • Boston Children's Hospital

• TABLE 8 - Science, Technology, and Patent Law

Kevin W. Buckley • Torrey Pines Law Group, PC

• TABLE 9 - Scientific Consulting

Cecelia C. Yates, PhD • University of Pittsburgh

• TABLE 10 - Public Policy

William A. Muller, MD, PhD • Northwestern University

• TABLE 11 - Research & Government Positions

William Stetler-Stevenson, MD, PhD • National Institutes of Health

HCS, ASIP, AAA Symposium: Geographic Information System (GIS) for Tissues and Tumors: Mapping Quantitative Data into an Anatomical Context

12:00 PM - 2:00 PM • **SDCC, Room 6E**

Session Description:

12:00 PM - 12:30 PM

Keynote: Using Telescope as Microscope: Applying Geospatial Analysis Within an Anatomical Context

Xun Shi • Dartmouth College

• 12:30 PM - 12:50 PM

"Google Maps" For Tissue Biology - How to Find Topographic Biomarkers?

Denis Shapiro • Harvard Medical School and The Broad Institute of Harvard and MIT

• 12:50 PM - 1:10 PM

Spatial Analysis of Multiplex Immunohistochemistry Data Enables Systems Analysis of Hypoxia and Improved Stratification of Lung Cancer Patient Outcomes

Paraq Mallick • Canary Center at Stanford Cancer

1:10 PM - 1:30 PM

Mapping the Spatial Architecture of Human Tissues in Health and Disease with Multiplexed Ion Beam Imaging

Erin F. McCaffrey • Stanford University

• 1:30 PM

Panel Discussions

Young Scientist Leadership Award Lecture

1:00 PM - 1:30 PM • SDCC, Room 4

- Chair Intoduction
- Exercise Oncology: Harnessing the Therapeutic Benefits of Exercise

Tracy L. Parry, PhD • University of North Carolina at Greensboro

The Journal of Histochemistry & Cytochemistry Lecture

2:00 PM - 3:00 PM • SDCC, Room 6E

Chair: Stephen Hewitt, MD, PhD • Editor, Journal of Histochemistry and Cytochemistry • National Cancer

Institute/National Institutes of Health

Session Description:

Gender Diversity in Innovation Toolkit Created by IPO

Mercedes K. Meyer, PhD, JD • Drinker Biddle and Reath, LLP

Presidential Symposium: Advances in Regenerative Medicine

2:00 PM - 5:00 PM • **SDCC, Room 2**

Chair: Carol Farver, MD • Cleveland Clinic

Co-Chair: James Stone, MD, PhD • Massachusetts General Hospital

Session Description:

Welcome and Introductions

Dani S. Zander, MD • University of Cincinnati Medical Center

• 2:00 PM - 3:00 PM

Activation of Endogenous Cardiomyocyte Proliferation for Heart Repair

Yigang Wang, MD, PhD • University of Cincinnati College of Medicine

3:00 PM - 4:00 PM

Lung Stem Cells and Cancer at Single Cell Resolution

Mark Krasnow, MD PhD • Howard Hughes Medical Institute

• 4:00 PM - 5:00 PM

Regulation of Lung Progenitors and their Microenvironment

Carla Kim. PhD • Harvard Medical School

• Questions and Answers

Symposium: Deep Learning and Artificial Intelligence in Pathology

2:00 PM - 5:00 PM • **SDCC, Room 3**

Chair: Stanley Cohen, MD • Rutgers-New Jersey Medical School

Co-Chair: John Tomaszewski, MD • University of Buffalo School of Medicine

Session Description:

- Chair Welcome and Introductions
- 2:00 PM 2:35 PM

Data Analytics Comes of Age

John Tomaszewski, MD • University of Buffalo School of Medicine

2:35 PM - 3:10 PM

AI 101: What is AI and How are It's Algorithmic Strategies Implemented?

Stanley Cohen, MD • Rutgers-New Jersey Medical School

• 3:10 PM - 3:45 PM

Deep Learning based Pathomic BiomarkersJoel Saltz, MD • Stony Brook Medicine

Juei Saitz, MD - Stully Blut

3:45 PM - 4:20 PM Image-Based Prognostic Assesment of Cancer

Geraldo Fernandez, MD • Mount Sinai Hospital

4:20 PM - 4:55 PM

Deep Leaning Driven Data Fusion as Pathology's New FrontierJohn Tomaszewski, MD • University of Buffalo School of Medicine

Summary

Stanley Cohen, MD • Rutgers-New Jersey Medical School

Minisymposium: Pathobiology of Cancer II

2:00 PM - 5:00 PM • SDCC, Room 5A

Chair: Co-Chairs:

• Abstract-Driven Short Talks (15-minutes each)

Presentation	Presenting	Abstract Title	Abstract
Time	Author		No.
2:00 PM -	J. Starrett	Drug Sensitivity and Allele-specificity of First-line Osimertinib Resistance EGFR	612
2:15 PM		Mutations	
2:15 PM -	P. Mendonca	The role of NF&[kappa]B in pentagalloyl glucose inhibition of TNF-&[alpha]-	1962
2:30 PM		induced CXCL1 expression and induction of apoptosis-related genes in racially	
		different triple negative breast cancer cells	
2:30 PM -	J. Hong	TMEM49 induced ovarian cancer via apoptosis pathway	2074
2:45 PM	, 5		
2:45 PM -	V. Hira	Similarities Between Stem Cell Niches in Glioblastoma and Bone Marrow: Rays of	2101
3:00 PM		Hope for Novel Treatment Strategies	
3:00 PM -	R. Castellanos	The Role of the Actin-Binding Protein Cortactin in the Activation of T Cells:	2268
3:15 PM	Martinez	Implications for T-Cell Acute Lymphoblastic Leukemia	
3:15 PM -	J. Okada	High expression of Nucleobindin-2 is associated with poor prognosis in gastric	2410
3:30 PM		cancer	
3:30 PM -	L. Li	Novel Tumor Suppressor PMM1 Suppresses Oral Cancer Growth through	3127
3:45 PM		Activation Unfolding Protein Response Activator EGR1	
3:45 PM -	S. Huang	Over-expression of BICD1 gene as a marker for clinically predicting	4991
4:00 PM		Temozolomide resistance in Glioblastomas	
4:00 PM -	C. Fang	High Expression of F11R/JAM-A is Predominant in Triple-negative Breast Cancer	5014
4:15 PM		Subtype and Correlates with Poor Prognosis in Breast Cancer Patients	
4:15 PM -	Y.Wu	Meta-Analysis Reveals Gut Microbial Signatures in Colorectal Adenoma and A	5174
4:30 PM		Link with Secondary Bile Acid Conversion	
4:30 PM -	S. Eliason	Inhibition of colorectal tumor formation using a new miR-210 therapeutic	5559
4:45 PM		inhibitor that targets the Lnc RNA Xist and Nme1	
4:45 PM -	V. Hallisey	Pro-Resolving Lipid Mediators and Anti-Angiogenic Therapy Exhibit Synergistic	5830
5:00 PM		Anti-Tumor Activity via Resolvin Receptor Activation	

ASIP Business Meeting, Award Presentations, & Reception

5:15 PM - 7:30 PM • SDCC, Room 2

ASIP President's Reception

8:00 PM - 11:00 PM • **ROOM TBD**

TUESDAY, APRIL 7, 2020

ASIP Program Committee Meeting

7:00 AM - 8:00 AM • SD Marriott Marquis & Marina • Del Mar Meeting Room

XXth Annual Workshop in Graduate Education in Pathology: Training and Fellowship Grants

8:00 AM - 10:00 AM • SD Marriott Marquis & Marina • Marina Ballroom, Salon D

Sponsored by the ASIP Education Committee

Chair: Titus A. Reaves, PhD • Medical University of South Carolina

Co-Chair: José Otero, MD, PhD • The Ohio State University

Session Description:

• Chair - Welcome and Introductions

8:00 AM - 9:00 AM

Training Grant F's and T's

Linda McManus, PhD • University of Texas Health San Antonio

• 9:00 AM - 10:00 AM

Get the Most Out of Your PhD: Winning a Training Grant and Maximizing Your Education

Alexander Sougiannis, BS, MA • University of South Carolina School of Medicine

• Questions and Answers

Minisymposium: Epithelial and Mucosal Pathobiology I

8:30 AM - 10:30 AM • SDCC, Room 14B

Chair:

Co-Chairs:

• Abstract-Driven Short Talks (15-minutes each)

Presentation Time	Presenting Author	Abstract Title	Abstract No.
8:30 AM - 8:45 AM	A. Siddiq	Giardia extracellular vesicles disrupt intestinal epithelial junctions and inhibit the growth of commensal bacteria while increasing their swimming motility	515
8:45 AM - 9:00 AM	K. Crakes	PPAR&[alpha]-targeted mitochondrial bioenergetics mediate repair of intestinal barriers at the host-microbe intersection during SIV infection	2382
9:00 AM - 9:15 AM	A. Sigmund	Dsg2 Upregulation as a Rescue Mechanism in Pemphigus	2757
9:15 AM - 9:30 AM	T. Schmitt	Ca2+ signalling is important for loss of keratinocyte adhesion in pemphigus vulgaris	2870
9:30 AM - 9:45 AM	M. Kelm	Targeting Epithelial Expressed Sialylated Lewis glycans improves colonic mucosal wound healing and protects against colitis	4718
9:45 AM - 10:00 AM	R. Wang	Dynamic regulation of actin-binding protein synaptopodin by butyrate promotes intestinal epithelial barrier function	4761
10:00 AM - 10:15 AM	Y. Ghoreishi	ADAM10 and Src-signalling contribute to the inflammation-induced formation of VE-cadherin fragments in endothelial cells	5100
10:15 AM - 10:30 AM	M. Quiros	Resolvin E1 is a pro-repair mediator that promotes intestinal epithelial wound healing	6041

Minisymposium: Liver Pathobiology I

8:30 AM - 10:30 AM • SDCC, Room 5A

Chair: Co-Chairs:

Presentation	Presenting	Abstract Title	Abstract
Time	Author		No.
8:30 AM -	V. Meadows	Mast Cell Signaling Regulates Biliary Farnesoid X Receptor and Apical Sodium	2044
8:45 AM		Bile Acid Transporter Expression During Cholestatic Liver Injury	
8:45 AM -	E. Delgado	Diploid Hepatocytes Resist Acetaminophen Induced Acute Liver Injury and Drive	4188
9:00 AM		Compensatory Liver Regeneration	
9:00 AM -	M. McMillin	Inhibition of thrombospondin-1 reduces transforming growth factor beta 1	5155
9:15 AM		signaling, hepatic fibrosis and neurological deficits during cholestasis in rats	
9:15 AM -	J. Tao	Concomitant NFE2L2 and CTNNB1 mutations in a subset of HCC patients:	5247
9:30 AM		Synergy between Nrf2 and Wnt pathway in hepatocarcinogenesis	
9:30 AM -	B. Bhushan	Hepatic deletion of MET aggravates acetaminophen hepatotoxicity and impairs	5879

9:45 AM		liver regeneration in mice	
9:45 AM -	A. O'Brien	FGF1 receptor antagonist decreases biliary proliferation, fibrosis, and senescence	6501
10:00 AM		in a mouse model of chronic cholestasis	
10:00 AM -	T. Pradhan-	Hepatocyte specific ablation of &[beta] and &[gamma]-catenin leads to altered	7151
10:15 AM	Sundd	hepatocyte polarity and EMT induction	
10:15 AM -	A. Mondal	Butyrate Priming Improves Gut Health by Modulating Host Protease Activity in	7464
10:30 AM		Murine Non-Alcoholic Fatty Liver Disease	

Symposium: Precision Oncology: The Promise for Translating Personal Genomics into Clinical Action

8:30 AM - 11:30 AM • SDCC, Room 4

Chair: Kevin Gardner, MD, PhD • Columbia University Medical Center

Co-Chair: Elizabeth Whitley, DVM, PhD • MD Anderson Cancer Center

Session Description:

- Chair Welcome and Introductions
- 8:30 AM 9:30 AM
- Population and Tumor Heterogeneity in Cancer Genomics and Precision Oncology
 John Carpten, PhD Keck School of Medicine of the University of Southern California
- 9:30 AM 10:30 AM
 - SPEAKER PENDING
- 10:30 AM 11:30 AM

Tumor Genomics in Latina Breast Cancer Susan Neuhausen, PhD • City of Hope

Ouestions and Answers

Symposium: Drinking from the Firehose: Progress in the Practical Uses of Big Data

8:30 AM - 11:30 AM • SDCC, Room 2

Chair: Dan Milner, Jr., MD, MSc, FASCP • American Society for Clinical Pathology

Co-Chair: Kevin Gardner, MD, PhD • Columbia University Medical Center

Session Description:

- Chair Welcome and Introductions
- 8:30 AM 9:15 AM

Blood Group Typing at the Genome Level

William Joseph Lane, MD, PhD • Brigham and Women's Hospital

• 9:15 AM - 10:00 AM

Digital Pathology Predictive Analysis

Anant Madabhushi, PhD • Case Western Reserve University

• 10:00 AM - 10:45 AM

SPEAKER PENDING

• 10:45 AM - 11:30 AM

Big-Data: Immunomics in Pathology and Medicine

Ramy Arnaout, MD, DPhil • Beth Israel Deaconess Hospital

• Questions and Answers

ACVP-ASIP Symposium: Comparative Hemostasis and Thrombosis

8:30 AM - 10:30 AM • SDCC, Room 3

Sponsored by the ASIP Veterinary and Comparative Pathology Scientific Interest Group and the American College of Veterinary Pathologists (ACVP)

Chair: Nora L. Springer, DVM, DACVP • Kansas State University College
Co-Chair: Katherine N. Gibson-Corley, DVM, PhD, DACVP • University of Iowa

Session Description: Veterinary scientists discuss cutting edge research in canine hemostasis and thrombosis and correlate to the equivalent human disease.

- Chair Welcome and Introductions
- 8:30 AM 9:10 AM

 ${\it Canine Lipoproteins Alter Endothelial Cell Function, Fibrinolysis, and Fibrin Clot Structure}$

Erica Behling-Kelly, DVM, PhD, DACVP • Cornell University

• 9:10 AM - 9:50 AM

*Inherited Platelet Function Disorders in Animals With Comparison to Their Human Counterparts*Peter Christopherson, DVM, PhD, DACVP • Auburn University

• 9:50 AM - 10:30 AM

Immune-Mediated Hemolytic Anemia, NETs, and Thrombosis: Tangled Together Dana LeVine, DVM, PhD, DACVIM • Iowa State University

• Questions and Answers

ASIP Scientific Sleuthing of Human Disease for Undergraduate Students and High School Teachers and Students

9:30 AM - 2:30 PM• SD Marriott Marquis & Marina • Marina Ballroom, Salon G

Sponsored by the ASIP Education Committee

Chair: Kari Nejak-Bowen, MBA, PhD • University of Pittsburgh

Co-Chair: Martha B. Furie, PhD • Stony Brook University

Session Description:

• 10:00 AM - 10:25 AM

Chair -Welcome and Introductions

Kari Nejak-Bowen, MBA, PhD • University of Pittsburgh

• 10:25 AM - 11:15 AM

Menacing Microbes: Emerging Infectious Diseases

Martha B. Furie, PhD • Stony Brook University

• 11:15 AM - 11:25 AM

Break

11:25 AM - 12:10 PM

Smoking-Related Lung Disease in 3D: Not Your Standard Lecture

Dani S. Zander, MD • University of Cincinnati Medical Center

12:10 PM - 12:40 PM

Specimen Viewing

• 12:40 PM - 1:30 PM

Stem Cells: A Case of Dr. Jekyll and Mr. Hyde

Satdarshan Paul Singh Monga, MD • University of Pittsburgh

• 1:30 PM - 2:30 PM

Visit the Exhibit Hall

Poster Viewing - Pathology, Pathogenesis, and Pathobiology

9:00 AM - 4:00 PM • SDCC, Exhibit Halls A-D

- Bioinformatics and Pathology Education
- Cardiac Pathobiology
- Endocrine Pathology
- Gene Expression
- Hemostasis and Thrombosis
- Infectious Disease II
- Metabolic Disorders
- Microscopy and Imaging
- Renal Pathology
- Veterinary Pathology

Lunch and Learn: The ABCs of the IDP, A Mentoring Workshop

11:45 AM - 1:45 PM • SD Marriott Marquis & Marrina • Marriiott Grand Ballroom 1-2

Sponsored by the ASIP Education Committee and the ASIP Committee for Career Development and Diversity

Chair: Roberto Ivan Mota Alvidrez, MD, MS • University of Texas Southwestern

Co-Chair: Christi Kolarcik, PhD • University of Pittsburgh

Session Description:

- Chair Welcome and Introductions
- 11:45 PM 12:15 PM

The IDP: Your Road from Here to There

Patricia A. D'Amore, PhD, MBA • Massachusetts Eye & Ear/Harvard Medical School

• 12:15 PM - 12:40 PM

Beyond the IDP - Self-Evaluation of Progress Over an Entire Career

Elaine Bearer, MD, PhD • University of New Mexico Health Science Center

• 12:40 PM - 1:30 PM

Workshop: Avoiding Difficult Conversations: Creating An IDP

Questions and Answers

SCVP-ASIP Joint Symposium: Clonal Hematopoiesis: Impact on Inflammation and Cardiovascular Disease - Cardiac Pathology

2:00 PM - 5:00 PM • **SDCC, Room 2**

Sponsored by the ASIP Inflammation/Immunopathology Scientific Interest Group and the Society for Cardiovascular Pathology (SCVP)

Chair: James Stone, MD, PhD • Massachusetts General Hospital

Session Description:

- Chair Welcome and Introductions
- 2:00 PM 3:00 PM

Clonal Hematopoiesis in Aging

Rafael Bejar, MD, PhD • University of California, San Diego

3:00 PM - 4:00 PM

Clonal Hematopoiesis and Atherosclerotic Cardiovascular Disease

Siddharth Jaiswal, MD, PhD • Stanford University

• 4:00 PM - 5:00 PM

Mechanistic Links Between Clonal Hematopoiesis and Age-Related Disease

Kenneth Walsh, PhD • Hematovascular Biology Center

• Questions and Answers

SIPMeT Symposium: Epigenetic Regulation and Cancer

2:00 PM - 5:00 PM • **SDCC, Room 3**

Sponsored by ASIP and the Società Italiana di Patologia e Medicina Traslazionale/Italian Society of Pathology and Translational Medicine (SIPMeT) Co-Sponsored by the ASIP Gene Regulation Scientific Interest Group

Chair: Massimiliano Corsi Romanelli, PhD, MD • University of Milan, Milan Italy

Co-Chair: Francesco Curcio, MD • University of Udine, Udine, Italy

Session Description:

- Chair Welcome and Introductions
- 2:00 PM 2:45 PM

Targeting Epigenome for Cancer Treatment and Prevention

Lucia Altucci, MD, PhD • University of Naples, Naples Italy

2:45 PM - 3:30 PM

Chromatin Domains in Transcriptional Regulation

Bing Ren, PhD • University of California, San Diego

• 3:30 PM - 4:15 PM

Molecular Mechanisms of Epigenetic (mis)Regulation

Tatiana Kutateladze, PhD • University of Colorado

• 4:15 PM - 5:00 PM

The NuRD Chromatin Remodeling Complex as a Therapeutic Target

David C. Williams, Jr., MD, PhD • University of North Carolina, Chapel Hill

• Questions and Answers

Minisymposium: Liver Pathobiology II

2:00 PM - 5:00 PM • SDCC, Room 4

Chair: Co-Chairs:

• Abstract-Driven Short Talks (15-minutes each)

Presentation Time	Presenting Author	Abstract Title	Abstract No.
2:00 PM - 2:15 PM	K. Kosar	Determining the effects of Wnt signaling in the alleviation of cholestasis via the promotion of hepatocyte transdifferentiation	1842
2:15 PM - 2:30 PM	S. Kumar	Deficiency of Augmenter of Liver Regeneration is Critical Predisposing Factor for Nonalcoholic Steatohepatitis and Fibrosis	2347
2:30 PM - 2:45 PM	L. Kennedy	Mast Cell (MC) Activation and Histamine (HA) Signaling Promotes Atypical Ductular Reaction, Biliary Senescence and Liver Fibrosis During Advanced Stage Primary Biliary Cholangitis (PBC)	2713
2:45 PM - 3:00 PM	A. Sharma	Hepatic stellate cells are critically involved in modulation of inflammatory microenvironment during acute liver injury	2886
3:00 PM - 3:15 PM	W. Ma	The Histone Methyltransferase G9a Promotes Cholangiocarcinogenesis through Regulation of the Hippo Pathway Kinase LATS2 and YAP Signaling Pathway	2931
3:15 PM - 3:30 PM	E. Delgado	Deletion and Overexpression of the Scaffolding Protein IQGAP1 Promotes Hepatocellular Carcinoma	2971
3:30 PM - 3:45 PM	C. Walesky	Functional Compensation Precedes Recovery of Tissue Mass Following Acute Liver Injury	3650
3:45 PM - 4:00 PM	X. Chao	Trehalose Does Not Improve Alcohol-Impaired TFEB and Liver Injury in Mice	3758
4:00 PM - 4:15 PM	L. Molina	Novel Model of Bile Duct Paucity Demonstrates the Critical Role of Yap1 in Biliary Morphogenesis in Development and Regeneration	4668
4:15 PM - 4:30 PM	S. Ko	Simultaneous Yap and Sox9 repression eliminates Notch-dependent hepatocyte- driven cholangiocarcinogenesis	4899
4:30 PM - 4:45 PM	K. Koral	Lymphocyte Specific Protein-1 suppresses TCPOBOP induced hepatocellular proliferation	5213
4:45 PM - 5:00 PM	M. Preziosi	LXR Agonism Potentiates Sorafenib Activity in HCC By Inducing Metabolic Stress	6520

Minisymposium: Pathobiology of Infectious Disease

2:00 PM - 5:00 PM • **SDCC, Room 5A**

Chair: Co-Chairs:

Presentation Time	Presenting Author	Abstract Title	Abstract No.
2:00 PM - 2:15 PM	H. Gorman	Role of MUC2 Mucin Associated FCGBP in Innate Host Defense Against Entamoeba Histolytica	15
2:15 PM - 2:30 PM	G. Golden	Sulfation of endothelial heparan sulfate mediates Staphylococcus aureus induced hepatotoxicity	681
2:30 PM - 2:45 PM	N. Lartey	The Role of the Actin-Binding Protein Cortactin in the Onset and Development of Sepsis	2035
2:45 PM - 3:00 PM	E. Fekete	Alterations to Mucus Production and Secretion during Giardia Infection Involve Giardia Protease Activity and PAR2 Activation	2365
3:00 PM - 3:15 PM	P. Bernard	Polymorphisms in RocA contribute to the molecular pathogenesis of serotype M28 group A streptococcus	3097
3:15 PM - 3:30 PM	A. Awan	Characterization of Viraemic Cells in a Murine Model of EHV-1 Infection	3232
3:30 PM - 3:45 PM	P. Hanson	Induction of Nrg1 and ErbB4 Is Specific to Virus Induced Injury of the Myocardium and May be Detected during Pathogenesis of Viral Myocarditis as Blood-Based Biomarkers for Diagnosis	4191
3:45 PM - 4:00 PM	D. Joshi	Altered Coagulation Parameters and D-Dimer Measurements in Sepsis are useful in Scoring the Risk Stratification	4208
4:00 PM - 4:15 PM	M. Engevik	Characterizing mucus-based biofilms in human Clostridium difficile infection	4534
4:15 PM - 4:30 PM	J. Mungin	Human Vaginal Epithelial Cells are Susceptible to the Zika Virus: Implications for Zika Vaginal Transmission	7170
4:30 PM - 4:45 PM	C. Morris	Heparan Sulfate Modulates Heart Vascular Remodeling Induced by S. Aureus Sepsis	7339
4:45 PM - 5:00 PM	T. Allain	Western Diet Increases the Severity of Giardia Infection in Association with Gut Microbiota Dysbiosis	7347

Minisymposium: Epithelial and Mucosal Pathobiology II 2:00 PM - 5:00 PM • **SDCC, Room 14B**

Chair:

Co-Chairs:

Presentation	Presenting	Abstract Title	Abstract
Time	Author		No.
2:00 PM -	S. Rahaman	Role of TRPV4 mechanosensing in foreign body response and giant cell	1995
2:15 PM		formation	
2:15 PM -	S. Cheng	FUT2 deficiency may influence the pathogenesis of inflammatory bowel diseases	2866
2:30 PM		through gut microbiome	
2:30 PM -	S. Cheng	NMI and IFP35 are key DAMP molecules in inflammatory bowel diseases	3147
2:45 PM			
2:45 PM -	I. Cartwright	Insights into the mechanisms of inflammatory acidification within the mucosa	3559
3:00 PM			
3:00 PM -	C. Austin	A Randomized, Placebo-Controlled Trial Evaluating Effects of Lebrikizumab on	3747
3:15 PM		Airway Eosinophilic Inflammation and Remodeling in Uncontrolled Asthma	
		(CLAVIER)	
3:15 PM -	T. Mammoto	Obesity in Vascular and Alveolar Morphogenesis after Pneumonectomy	4154
3:30 PM			
3:30 PM -	Y. Guo	The Roles of Inducible Nitric Oxide Synthase in Mediating the Effects of	4158
3:45 PM		Embryotoxic Cytokines on Mouse Embryonic Cells	
3:45 PM -	J. Brazil	Regulation of Neutrophil Function by Selective Targeting of Glycan Epitopes	4566
4:00 PM		Expressed on the Integrin CD11b/CD18	
4:00 PM -	D. Sullivan	Calcium Signaling Regulates Leukocyte Transendothelial Migration through the	5149
4:15 PM		Action of Endothelial Cell IQGAP1, Calmodulin, and CaMKII&[delta]	
4:15 PM -	J. Lanis	Contributions of Creatine Kinase to Mucosal Immune Responses in Colitis	5630
4:30 PM		·	
4:30 PM -	N. Rutledge	CD99L2 is a Major Regulator of Transendothelial Migration	5691
4:45 PM			
4:45 PM -	V. Tanwar	Palmitic acid induced lncRNA PARAIL regulates inflammation in human	6582
5:00 PM		monocytes and macrophages	