SOCIETY OF TOXICOLOGIC PATHOLOGY

Innovative Therapeutics: Biology, Toxicologic Pathology, and Regulatory Perspectives

Program

STP 43RD ANNUAL SYMPOSIUM

Baltimore Marriott Waterfront | Baltimore, Maryland | June 16–19, 2024
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<td><strong>Saturday, June 15, 2024</strong></td>
<td>4:00 PM–6:00 PM</td>
<td>Registration</td>
<td>Grand Registration</td>
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<td></td>
<td>7:00 AM–6:00 PM</td>
<td>Registration</td>
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<tr>
<td></td>
<td>8:00 AM–12:00 Noon</td>
<td>CE1: Immunotoxicology from a Pathology Perspective</td>
<td>Grand Ballroom Salon V</td>
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<td></td>
<td>9:00 AM–12:00 Noon</td>
<td>DTT Satellite Symposium: Pathology Potpourri</td>
<td>Dover</td>
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<td>1:30 PM–5:30 PM</td>
<td>CE2: Nonclinical Safety Evaluation of Long-Acting Injectables (LAI) in Animal Models</td>
<td>Grand Ballroom Salon V</td>
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<td>1:30 PM–5:00 PM</td>
<td>Career Development Workshop: US FDA Modernization ACT 2.0</td>
<td>Dover</td>
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<td></td>
<td>5:30 PM–7:00 PM</td>
<td>Welcome Reception/Exhibits Opening</td>
<td>Grand Ballroom Salon VI</td>
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<td></td>
<td>7:00 PM–8:30 PM</td>
<td>Student/Mentor Mixer</td>
<td>Galena</td>
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<tr>
<td><strong>Sunday, June 16, 2024</strong></td>
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<td>7:00 AM–6:00 PM</td>
<td>Registration</td>
<td>Grand Registration</td>
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<td></td>
<td>8:00 AM–12:00 Noon</td>
<td>Session 1: AAV-Based Therapies</td>
<td>Grand Ballroom Salon V</td>
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<td></td>
<td>9:00 AM–4:00 PM</td>
<td>Exhibits and Poster Sessions Open</td>
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<td>10:30 AM–11:00 AM</td>
<td>Break: Please visit Exhibits and Poster Sessions</td>
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<tr>
<td></td>
<td>12:30 PM–1:30 PM</td>
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<td><strong>Monday, June 17, 2024</strong></td>
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<td>8:00 AM–9:00 AM</td>
<td>Symposium Welcome and Keynote Presentation: How Safe Is AAV Gene Therapy?</td>
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<td>Session 3: Targeted Delivery of siRNA and ASO-Based Therapies</td>
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<td></td>
<td>9:00 AM–12:00 Noon</td>
<td>Session 4: mRNA and Self-Amplifying RNA (saRNA): Opportunities for Disease Prevention and Therapy</td>
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<td>12:00 Noon–1:30 PM</td>
<td>Committee Social</td>
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<td>1:30 PM–5:00 PM</td>
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<td>3:25 PM–3:55 PM</td>
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<td>Annual Business Meeting and Town Hall: Adversity 2.0</td>
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**Tuesday, June 18, 2024**

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<td>8:00 AM–12:00 Noon</td>
<td>Session 6: LNP and Other Delivery Systems</td>
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<td>Break: Please visit Exhibits and Poster Sessions</td>
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<tr>
<td>12:00 Noon–1:30 PM</td>
<td>Committee Social</td>
<td>Waterview</td>
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<tr>
<td>1:30 PM–5:00 PM</td>
<td>Session 7: Other Delivery Systems</td>
<td>Grand Ballroom Salon VI</td>
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<tr>
<td>3:15 PM–3:45 PM</td>
<td>Break</td>
<td>Grand Ballroom Foyer</td>
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<tr>
<td>5:30 PM–6:30 PM</td>
<td>Awards and Recognition Ceremony</td>
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<tr>
<td>7:00 PM–9:00 PM</td>
<td>President’s Reception</td>
<td>Grand Ballroom Salon VI</td>
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<td>9:00 PM</td>
<td>Meeting Adjourned</td>
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2024 Annual Symposium Mobile App
Quick Start Guide

Download the Cvent Events mobile app from your app marketplace or from www.toxpath.org/am2024/app.asp and search for STP 43rd Annual Symposium.

Log in with your name and email. Click on Profile to access your profile and to manage your communications and privacy settings.

Additional Features
Select the More icon to view additional features in the app, including meeting attendees, maps, poster abstracts, exhibitors, sponsors, surveys, and much more!

Use the advance search feature on each page to search by:
Schedule—by Session or Event Title, or by Session or Event Type
Poster—by Poster Number or Title
Speakers—by Name or Affiliation
Exhibitors—by Company Name or Booth Number
Attendees—by Name or Affiliation

NOTE: If you are unable to access the app on a mobile device, you may access the attendee hub online version from www.toxpath.org/am2024.asp.

Meeting materials can also be viewed online: https://www.toxpath.org/am2024/materials.asp. You will be prompted for a login. Members can access with normal STP login. Other attendees can access with login provided via email.

In our continuing efforts to reduce paper usage and to provide pre-meeting access to meeting materials, including speaker and poster abstracts, the attendee list, session evaluations, and links to meeting-related events and surveys, attendees are encouraged to download the Cvent Events app from the Apple or Android stores, or www.toxpath.org/am2024/app.asp, and search for the STP 43rd Annual Symposium event.

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2024 STP Lifetime Achievement Award

David E. Malarkey, DVM, MS, PhD, DACVP, FIATP

The Society of Toxicologic Pathology is pleased to recognize David Malarkey as the 2024 STP Lifetime Achievement Awardee based on his career-long contributions to the field of toxicologic pathology and his distinguished service to and active participation in the Society of Toxicologic Pathology. Dr. Malarkey received a BS & MS degree in Biology from the University of Bridgeport, CT. After he earned these degrees he completed the 1st year of Medical School at Boston University as a graduate student and went on to receive a DVM degree from Tufts University, Grafton, MA, Pathology Residency at Angell Memorial Animal Hospital in Boston, and a PhD in Pathology and Biotechnology from North Carolina State University (NCSU), Raleigh, North Carolina. He joined the faculty at NCSU-CVM as Assistant Professor of Pathology for 6 years then started work as Pathologist and Staff Scientist at National Institute of Environmental Health Sciences (NIHES), NC where he was soon promoted to Head, National Toxicology Program (NTP) Pathology Group, Cellular and Molecular Pathology Branch.

Dr. Malarkey meritoriously served the NTP, NIEHS and toxicologic pathology community for more than three decades, including numerous national and international educational workshops, symposia, short courses and other professional meetings such as being Session Co-Chair of the bi-annual RTP Pathology courses held in the 2000s and the 2023 STP Annual Symposium on the pathology of rodent hepatobiliary system. Dr. Malarkey established the very successful NTP Toxicologic Pathology Training Program in partnership with NCSU-CVM. He has provided educational materials, resources and mentorship to more than 20 residents/trainees since 2002 in our NTP program in 1-3 year appointments, and 75 veterinary student externs in 1-4 week or summer pathology externships from around the globe. In addition to an extensive list of more than 100 peer-reviewed publications and ten book chapters, Dr. Malarkey has presented national and international scientific lectures and organized workshop courses spanning 30 years and has contributed to expediting the pathology peer-review process, writing pathology reports, and evaluation of more than 80 NTP (now Division of Translational Toxicology (DTT) and NCTR National Center for Toxicologic Research/FDA) studies. For his lifetime of achievements and vast contributions to STP and the toxicologic pathology community, the Society proudly presents Dr. Malarkey with the 2024 STP Lifetime Achievement Award.

2024 STP Mid-Career Excellence Award

Arun Kumar Pandiri, BVSc&AH, MS, PhD, DACVP, DABT, FIATP, FATS

The Society of Toxicologic Pathology honors Arun Pandiri with the inaugural STP Mid-Career Excellence Award. Arun received his veterinary degree from Acharya N.G. Ranga Agricultural University in India in 1998, MS from the University of Arkansas in 2000, PhD from Michigan State University in 2005 and completed pathology residency from North Carolina State University in 2008. Following a postdoctoral fellowship at NIEHS, Arun began working at EPL, Inc. in 2010 as a contractor within the Division of National Toxicology Program (now Division of Translational Toxicology (DTT)). Since 2015, he has served as the leader of the Molecular Pathology Group at DTT. Arun has received 2 NIH merit awards as well as a Special Act award from the Director of DTT in recognition of leading investigations on molecular signatures of environmental carcinogens using rodent models and human tissues. He serves on the editorial board of Toxicologic Pathology and as a reviewer for several scientific journals. He has been an author on more than 70 peer reviewed publications, 15 book chapters, and 12 NTP technical reports, and gave 32 invited talks, and mentored more than 30 trainees/interns. Arun has served as the Scientific Program Planning Committee Co-Chair for the 2023 Annual Symposium and as a member of the SPPC for the 2013 and 2023 meetings. He has organized scientific sessions and continuing education courses for STP, ACT, ACVP and Tox Forum. In addition to his service to STP, Arun was the President of Genetics and Environmental Mutagenesis Society of North Carolina in 2019. Arun was the winner of the inaugural STP Distinguished Early Career Award in 2014. For all his accomplishments, STP is proud to honor Arun Pandiri as the 2024 Mid-Career Excellence Awardee.

2024 STP Distinguished Early Career Award

Cynthia J. Willson, MS, PhD, DVM, DACVP, DABT

The Society of Toxicologic Pathology recognizes Cynthia Willson as the 2024 STP Distinguished Early Career Awardee. Cynthia received her BS from University of Washington in 1995, her MS from University of Wyoming in 1999, her PhD from Duke University in 2005, and her DVM from North Carolina State University in 2011. She completed a combined fellowship and residency at Wake Forest University and received ACVP board certification in 2014. Cynthia also earned ABT board certification in 2021. She began working for Integrated Laboratory Systems (now Inotiv-RTP) in 2014 as an on-site NTP Pathologist contractor with the NIEHS in the Division of National Toxicology Program (now the Division of Translational Toxicology (DTT)), where she is now an Investigative Pathologist. At NIEHS she has received 5 NIEHS/NIH Intramural Papers of the month awards and an NIEHS Best Paper of the Year Award regarding a Nature Communications publication. Cynthia has helped develop and lead the web-based DTT Global Toxicologic Pathology Training Program to provide freely accessible training material worldwide. She is author or co-author of more than 35 peer-reviewed journal articles or technical reports and 3 book chapters. She has presented at continuing education courses for the Society of Toxicology, American College of Toxicology, and STP. She has dedicated her early career to giving back to STP by serving as the Chair of the Membership Committee and the Reproductive Pathology Special Interest Group, as a member of the male reproductive system INHAND working group and two Scientific and Regulatory Policy Committee working groups on digital pathology and carcinogenesis, and on the Editorial Board for Toxicologic Pathology. Cynthia also served on the 2021 Scientific Program Planning Committee and as a Session Co-Chair for the 2021 Society of Toxicologic Pathology Annual Symposium. In recognition for her dedication to service, Cynthia also received the Society of Toxicologic Pathology Member-Get-A-Member Award in 2019. For all that she has accomplished in her early career, STP is proud to honor Cynthia Willson as the 2024 Distinguished Early Career Awardee.
**The Daniel Morton and Laura Dill Morton Scholarship (2024)**

**Andressa Varella Gonsioroski, MS, DVM, PhD**

**Michigan State University**

Dr. Andressa Varella Gonsioroski is currently in her second year of residency in toxicologic pathology at Michigan State University. She is originally from the southern region of Brazil, where she obtained her DVM and Master's in Animal Reproduction before exploring the field of toxicologic pathology. Her interest in this area started during her PhD studies at the University of Illinois Urbana-Champaign, where she focused on investigating the impact of specific water contaminants on the female reproductive system. Throughout her educational journey, Dr. Gonsioroski has performed multiple externships in toxicologic pathology across diverse pharmaceutical settings. These experiences provided her with a comprehensive understanding of the numerous roles that toxicologic pathologists play in drug development. As she approaches the final year of her residency, Dr. Gonsioroski is set to complete her training at Charles River Laboratories. Driven by the desire to contribute to the safety and efficacy assessment of new therapies, Dr. Gonsioroski envisions a future career in toxicologic pathology. She currently resides in Michigan alongside her husband Jeff and a spirited dachshund named Maria, where in their leisure moments they enjoy Brazilian barbecue.

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**2024 STP Student Travel Grants**

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<tr>
<th>Student Name</th>
<th>University</th>
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<tbody>
<tr>
<td>Esdras Correa dos Santos</td>
<td>University of Georgia</td>
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<tr>
<td>Jiashi Feng</td>
<td>Kansas State University</td>
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<tr>
<td>Luan Henker</td>
<td>Auburn University</td>
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<tr>
<td>Kristen Hoehler</td>
<td>Auburn University</td>
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<tr>
<td>Nathan Hoggard</td>
<td>Ohio University</td>
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<tr>
<td>Jae-Ha Jung</td>
<td>Seoul National University</td>
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<tr>
<td>Rekha K C</td>
<td>North Carolina State University</td>
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<tr>
<td>Emily King</td>
<td>The Ohio State University</td>
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<tr>
<td>Hannah Ruetten</td>
<td>Wake Forest School of Medicine</td>
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<tr>
<td>Vanitha Thurairasu</td>
<td>National University of Malaysia</td>
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<tr>
<td>Bradley Wright</td>
<td>University of Cincinnati</td>
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<tr>
<td>Ji-Hang Yin</td>
<td>Auburn University</td>
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**2024 STP Young Investigator Awards**

Winners will be announced at the Awards and Recognition Ceremony on Wednesday, June 19, in Grand Ballroom Salon V.

**2024 STP Environmental Toxicologic Pathology SIG Student Research Award**

**Bradley Wright, University of Cincinnati**

"MRI and Histological Measures of Myelination are Correlated in a Rat Model of BPA Neurotoxicity"

**2024 STP/ACVP Student Poster Award**

**Shanny H. Kuo, University of Illinois Urbana-Champaign**

"*Pseudomonas aeruginosa*-Derived Volatile Organic Compounds Activate Aryl Hydrocarbon Receptor Signaling and Polarize toward M1 Macrophage, Neutrophils, and Type 17 Immune Responses that Favor Mucus Hypersecretion in Diseased Lungs"

**2024 STP/CTPVSS Student Award**

**Brianna Ames, Rutgers University**

"Prenatal Exposure to Cadmium Alters Macrophage Subpopulations in Mouse Placentas"
Each year, the journal's Editor-in-Chief and Editorial Board select two Best Paper Awards: Best Paper for Original Manuscript and Best Paper for Invited Review/Review. The 2024 Best Paper Awards go to:

**2024 Best Paper Award for Original Manuscript**

*Neurofilament Light Chain: A Translational Safety Biomarker for Drug-Induced Peripheral Neurotoxicity*


Diethilde Theil, Jens Kuhle, Dominique Brees, Elaine Tritto, François Pognan, Wilfried Frierauff, Kelley Penraat, Emily Meseck, Reginald Valdez, and Andreas Hartmann.

**2024 Best Paper Award for Invited Review/Review**

*European Society of Toxicologic Pathology (Pathology 2.0 Molecular Pathology Special Interest Group): Review of In Situ Hybridization Techniques for Drug Research and Development*


Josep M. Monné Rodríguez, Anna-Lena Frisk, Robert Kreutzer, Thomas Lemarchand, Stéphane Lezmi, Chandrassegar Saravanar, Birgit Stierstorfer, Céline Thuilliez, Enrico Vezzali, Grazyna Wieczorek, Seong-Wook Yun, and Dirk Schaudien.
STP 43RD ANNUAL SYMPOSIUM

Marriott Harborside Ballroom Level 4
PROGRAM

SUNDAY, JUNE 16

CE1
8:00 AM–12:00 Noon
Grand Ballroom Salon V
Immunotoxicology from a Pathology Perspective
Co-Chairs: Tracey L. Papenfuss, DVM, MS, PhD, DACVP, StageBio and Daniel Weinstock, DVM, PhD, DACVP, Self-Employed

8:00 AM–8:10 AM Introduction
8:10 AM–8:55 AM The Changing Landscape of Immune System Evaluation: From Immunotoxicology and How to Navigate in the Brave New Work of Immunotherapies
Tracey L. Papenfuss, DVM, MS, PhD, DACVP, StageBio
8:55 AM–9:45 AM Relevant Tox Species and Translational Aspects Relating to Immune System
Ashwini Phadnis Moghe, MS, PhD, DABT, Boehringer Ingelheim
9:45 AM–10:15 AM Break
10:15 AM–11:05 AM Spontaneous and Immunotoxic Pathology Findings in the Hematolymphoid System
Lauren E. Himmel, DVM, PhD, DACVP, AbbVie
11:05 AM–11:55 AM WOE (Weight of Evidence), Holistic Interpretation, Regulatory Guidances: Practical Approaches for Various Therapeutics
Ana Goyos, PhD, J&J Innovative Medicine
11:55 AM–12:00 Noon Panel Discussion

DTT Satellite Symposium: Pathology Potpourri
9:00 AM–12:00 Noon
Dover
Refreshments sponsored by Charles River and EPL, Inc.
Chair: Erin M. Quist, DVM, MS, PhD, DACVP, Charles River Laboratories
Co-Chair: Mark F. Cesta, DVM, PhD, DACVP, NIEHS
Note: DTT is the NIEHS Division of Translational Toxicology.

9:00 AM–9:10 AM Welcome and Introductory Remarks
9:10 AM–9:40 AM Glomerular Conundrum
Shambhunath Choudhary, BVSc, PhD, DACVP, DABT, Pfizer, Inc.
9:40 AM–10:00 AM Eternal Sunshine of the Unspotless Mind
Typhaine Lejeune, DVM, DESV, DECVP, Charles River Laboratories
10:00 AM–10:20 AM What's the Skin-ny?
Emily Mackey, PhD, DVM, Wake Forest University
10:20 AM–10:50 AM Break
10:50 AM–11:10 AM Trails of Ephemeral Ambiguity
Priyanka Thakur, BVSc, PhD, MVSc, DACVP, Charles River Laboratories
11:10 AM–11:40 AM Grizzly Paws
Kristen Hobbie, DVM, PhD, DACVP, Inotiv
11:40 AM–12:00 Noon A Hemato-Poetic Tragedy
Amanda Duggan, DVM, Wake Forest University
CE2
1:30 PM–5:30 PM
Grand Ballroom Salon V

Nonclinical Safety Evaluation of Long-Acting Injectables (LAI) in Animal Models
Co-Chairs: Bhanu P. Singh, BVSc, MS, DACVP, DABT, FIATP, Gilead Sciences, Inc. and Keith G. Nelson, DVM, PhD, DACVP, Inotiv

1:30 PM–1:35 PM
Introduction

1:35 PM–2:00 PM
Practical Considerations in Evaluating LAI Injection Site Reactions in Animal Models: Study Design and In-Life Evaluations
Tyler Plachta, MS, Charles River Laboratories

2:00 PM–2:30 PM
Practical Considerations in Evaluating LAI Injection Site Reactions in Animal Models: Post-Life Considerations and Evaluation
Keith G. Nelson, DVM, PhD, DACVP, Inotiv

2:30 PM–3:15 PM
Nonclinical Strategy for Developing a Long-Acting Injectable Drug Product
Doris Zane, MS, PhD, DABT, Gilead Sciences, Inc., and Bhanu P. Singh, BVSc, MS, DACVP, DABT, FIATP, Gilead Sciences, Inc.

3:15 PM–3:45 PM
Break

3:45 PM–4:30 PM
Communicating the Clinical Risk of Injection Site Reactions (ISR) from LAI Drugs
John L. Vahle, DVM, PhD, DACVP, Eli Lilly and Company

4:30 PM–5:15 PM
The Temporal Evolution and Characterization of Histopathology and Immunological Changes Associated with Five Different LAI Drug Nanosuspensions
Ronnie Chamanza, BVSc, MSc, FRCPath, MRCVS, FIATP, J&J Innovative Medicine

5:15 PM–5:30 PM
Panel Discussion

Career Development Workshop
1:30 PM–5:00 PM
Dover
Sponsored by EPL, Inc.

US FDA Modernization ACT 2.0
Co-Chairs: Alycia Fratzke, DVM, PhD, DACVP, Charles River Laboratories and Leah Schutt, DVM, PhD, DACVP, Genentech

1:30 PM–1:35 PM
Introduction

1:35 PM–2:10 PM
Overview of the US FDA Modernization Act 2.0 and Beyond: Intentions and Implementation
Jacob McDonald, PhD, FATS, Envol Biomedical

2:10 PM–2:45 PM
Virtual Control Groups: Too Good to be True or Triple Threat?
Lila Ramaiah, DVM, PhD, DACVP, J&J Innovative Medicine

2:45 PM–3:15 PM
Break

3:15 PM–3:50 PM
New Approach Methodologies (NAMs): Role of Pathologists
Radhakrishna Sura, DVM, MS, PhD, DACVP, Gilead Sciences, Inc.

3:50 PM–4:25 PM
Tox21 Program
David Reif, PhD, NIEHS/NTP

4:25 PM–5:00 PM
Q&A

Welcome Reception
5:30 PM–7:00 PM
Grand Ballroom Salon VI

Student/Mentor Mixer
7:00 PM–8:30 PM
Galena
All students and invited mentors.
MONDAY, JUNE 17

STP 43rd Annual Symposium Welcome
8:00 AM–8:10 AM
Grand Ballroom Salon V

Keynote Presentation: How Safe Is AAV Gene Therapy?
8:10 AM–9:00 AM
Grand Ballroom Salon V
James M. Wilson, MD, PhD, University of Pennsylvania

Session 1
9:00 AM–12:00 Noon
Grand Ballroom Salon V

AAV-Based Therapies
Co-Chairs: Juliette Hordeaux, DVM, PhD, DECVP, University of Pennsylvania and Laurence O. Whiteley, DVM, PhD, DACVP, Dyne Therapeutics

9:00 AM–9:30 AM
Understanding and Taming Immune Responses to AAV Gene Therapy
Ying Kai Chen, PhD, Harvard University

9:30 AM–10:00 AM
AAV Eye Toxicity
Helen S. Booler, BSc (Hons), BVetMed, DECVP, PhD, MRCVS, Novartis

10:00 AM–10:30 AM
Nervous System Pathology for Adeno-Associated Virus (AAV)-Based Gene Therapy Products
Brad Bolon, DVM, MS, PhD, DACVP, DABT, FATS, FIATP, FRCPath, GEMpath, Inc.

10:30 AM–11:00 AM
Break

11:00 AM–11:30 AM
Adeno-Associated Virus-Related Cardiovascular Toxicity
Juliette Hordeaux, DVM, PhD, DECVP, University of Pennsylvania

11:30 AM–12:00 Noon
Systemic AAV Toxicity
Basel T. Assaf, BVSc, PhD, DACVP, Sanofi

Career Development Roundtable
12:30 PM–1:30 PM
Dover
Sponsored by EPL, Inc and Ionis Pharmaceuticals

Artificial Intelligence (AI) in the Workplace
Co-Chairs: Elizabeth Clark, DVM, PhD, DACVP, Boehringer-Ingelheim and Jessica Grieves, DVM, PhD, DACVP, Ionis Pharmaceuticals

Session 2
1:30 PM–5:00 PM
Grand Ballroom Salon V

Adoptive Cell Therapies
Co-Chairs: Ingrid Cornax, DVM, PhD, MS, DACVP, Altos Labs and Brian E. McIntosh, PhD, Labcorp

1:30 PM–1:35 PM
Introduction

1:35 PM–2:15 PM
Role of Pathologist in Cell Therapy Programs
Alessandra Piersigilli, DVM, PhD, DECVP, Takeda

2:15 PM–2:40 PM
Normal Tissue Target Expression Profiling (TEP) in Support of Cell Therapies
Vinicius S. Carreira, DVM, PhD, DACVP, DABT, J&J Innovative Medicine

2:40 PM–3:05 PM
Off-Target Screening of Biologics
Frédéric Gervais, DVM, DESV, DECVP, Charles River Laboratories

3:05 PM–3:35 PM
Break
3:35 PM–4:05 PM  Pathogenesis and Preclinical Assessment of Cytokine Release Syndrome  
Keith Mansfield, DVM, DACVP, Novartis BioMedical Research

4:05 PM–4:35 PM  Pathogenesis and Preclinical Assessment of Immune Effector Cell-Associated Neurotoxicity Syndrome (ICANS)  
Ingrid Cornax, DVM, PhD, MS, DACVP, Altos Labs

4:35 PM–5:00 PM  Panel Discussion

Annual Business Meeting
5:30 PM–6:00 PM  
Grand Ballroom Salon V

Town Hall: Adversity 2.0
6:00 PM–7:00 PM  
Grand Ballroom Salon V  
Sponsored by EPL, Inc.

TUESDAY, JUNE 18

Session 3
8:00 AM–12:00 Noon  
Grand Ballroom Salon V

Targeted Delivery of siRNA and ASO-Based Therapies
Co-Chairs: Jessica Grieves, DVM, PhD, DACVP, Ionis Pharmaceuticals and Adam O. Michel, DVM, MVSc, DVSc, DACVP, Regeneron

8:00 AM–8:10 AM  Session Introduction  
Jessica Grieves, DVM, PhD, DACVP, Ionis Pharmaceuticals and Adam O. Michel, DVM, MVSc, DVSc, DACVP, Regeneron

8:10 AM–8:40 AM  Introduction to Oligonucleotides  
Martin Egli, PhD, Vanderbilt University

8:40 AM–9:10 AM  Improving the Safety and Specificity of RNAi Therapeutics  
Maja M. Janas, PhD, DABT, Alnylam Pharmaceuticals

9:10 AM–9:40 AM  Nonclinical Safety of Eye-Targeting Oligonucleotides  
Adam O. Michel, DVM, MVSc, DVSc, DACVP, Regeneron

9:40 AM–10:10 AM  Break

10:10 AM–10:40 AM  Nonclinical Safety of Inhaled Oligonucleotides  
Jessica Grieves, DVM, PhD, DACVP, Ionis Pharmaceuticals

10:40 AM–11:10 AM  Muscle-Targeted Oligonucleotide Therapies: Safety and Strategy  
Katherine A. Knostman, DVM, PhD, DACVP, Sarepta Therapeutics

11:10 AM–11:40 AM  Individualized Antisense Oligonucleotide Discovery and Development for Patients with Nano-Rare Genetic Mutations  
Julie Douville, PhD, n-Lorem Foundation

11:40 AM–12:00 Noon  Student Speaker: Preclinical Dog Model of Focal Prostate Cancer: Pathology and Novel Theranostics  
Nathan Hogyard, DVM, DACVP, Ohio University

Committee Social
12:00 Noon–1:30 PM  
Waterview  
All STP committee members are invited.
Session 4
1:30 PM–5:00 PM
mRNA and Self-Amplifying RNA (saRNA): Opportunities for Disease Prevention and Therapy
Co-Chairs: Shan K. Naidu, DVM, PhD, DACVP, Moderna Therapeutics and Rani Sellers, DVM, PhD, DACVP, University of North Carolina at Chapel Hill

1:30 PM–2:10 PM    Safety and Immunogenicity of Self-Amplifying RNA Vaccines
Sue-Jean Hong, PhD, Pfizer, Inc.

2:10 PM–2:40 PM    saRNA/mRNA Opportunities in Oncology: Role of Programmable Self-Replicating RNA in Cancer Immunotherapy
Prashant R. Nambiar, BVSc, MS, PhD, DACVP, MBA, DABT, Strand Therapeutics

2:40 PM–3:10 PM    Inhaled mRNA Therapy for Cystic Fibrosis
Eric Jacquinet, DVM, PhD, DABT, SalioGen Therapeutics

3:10 PM–3:25 PM    Student Speaker: 1-Trichloromethyl-1,2,3,4-tetrahydro-beta-carboline (TaClo)-Induced Developmental Toxicity and Neurotoxicity in the Zebrafish Model following the Early-Life Exposure
Ji-Hang Yin, DVM, MS, Auburn University

3:25 PM–3:55 PM    Break

3:55 PM–4:30 PM    Clinical Pathology Findings with mRNA Vaccine Compared to Relevant Vaccine Adjuvants
Lila Ramaiah, DVM, PhD, DACVP, J&J Innovative Medicine

4:30 PM–5:00 PM    Regulatory Considerations with mRNA Modalities—Working Without Guidelines
Rani Sellers, DVM, PhD, DACVP, University of North Carolina at Chapel Hill

Student/Mentor Community Service Event
5:30 PM–7:00 PM
Dover
All students and invited mentors.

WEDNESDAY, JUNE 19

Session 5
8:00 AM–12:00 Noon
Grand Ballroom Salon V
Protein Degraders
Co-Chairs: Kiran S. Palyada, BVSc, MVSc, PhD, DACVP, DABT, Pfizer, Inc. and Clare E. Hoover, DVM, PhD, DACVP, AstraZeneca

8:00 AM–8:30 AM    Protein Degraders for the Pathologist: A Primer on Hijacking the Proteasome
Renee H. Hukkanen, DVM, MS, DACVP, Amgen

8:30 AM–9:00 AM    Toxicology Assessment of Protein Degraders: General Concepts and Perspective
Katie Stamp, PhD, Bristol Myers Squibb

9:00 AM–9:30 AM    Heterobifunctional Protein Degraders: Have We Seen These Same DMPK Issues Before?
Laurie Volak, PhD, Rapport Therapeutics

9:30 AM–9:45 AM    Using Protein Degrader Technology to De-Risk Dose-Limiting Thrombocytopenia: A Case Report
Allison Vitsky, DVM, DACVP, Pfizer, Inc.

9:45 AM–10:15 AM    Break

10:15 AM–10:50 AM    Targeted Protein Degradation (TPD): An Overview of On-Target and Off-Target Toxicity
Richard A. Peterson, II, DVM, PhD, DACVP, AbbVie

10:50 AM–11:25 AM    Preclinical Safety Assessment of Cereblon-Targeting PROTAC Therapeutics
Clare E. Hoover, DVM, PhD, DACVP, AstraZeneca

11:25 AM–12:00 Noon    Assessing Nonclinical Toxicity of Targeted Protein Degraders: A Regulatory Perspective
Stephanie Leuenroth-Quinn, PhD, US FDA/CDER
Session 6
1:30 PM–5:00 PM
Grand Ballroom Salon V

LNP and Other Delivery Systems
Co-Chairs: Dinesh Bangari, BVSc&AH, MS, PhD, DACVP, Sanofi and Nicholas A. Robinson, BVSc, PhD, DACVP, Alnylam Pharmaceuticals

1:30 PM–2:00 PM  Lipid Nanoparticles: Revolutionizing Vaccine Development and Gene Therapy
Suzanne Hartford, PhD, Independent Consultant

2:00 PM–2:45 PM  LNPs for Drug Delivery: Where to Go from Here?
Dinesh Bangari, BVSc&AH, MS, PhD, DACVP, Sanofi and Nicholas A. Robinson, BVSc, PhD, DACVP, Alnylam Pharmaceuticals

2:45 PM–3:15 PM  The Nonclinical Safety Assessment of LNPs—Toxicology and Pathology Considerations
Jessica E. Sutherland, PhD, DABT, Alnylam Pharmaceuticals and Nicholas A. Robinson, BVSc, PhD, DACVP, Alnylam Pharmaceuticals

3:15 PM–3:45 PM  Break

3:45 PM–4:15 PM  Nonclinical Safety of LNP-Formulated Modified mRNA
Maja Sedic, PhD, DABT, oRNA Tx

4:15 PM–5:00 PM  STX-001: Tumor Direct—Revolutionizing Cancer Treatment with LNP-Guided mRNA Therapeutics
Prashant R. Nambiar, BVSc, MS, PhD, DACVP, MBA, DABT, Strand Therapeutics

Awards and Recognition Ceremony
5:30 PM–6:30 PM
Grand Ballroom Salon V

President’s Reception
7:00 PM–9:00 PM
Grand Ballroom Salon VI

Meeting Adjournment
Poster Setup and Presentation Times

**Poster Presentation Times**
(Please plan to attend your posters during the following times)

Sunday, June 16 (Welcome Reception) ................ 6:00 PM–6:30 PM
Monday, June 17 ........ 10:30 AM–11:00 AM and 3:05 PM–3:35 PM
Tuesday, June 18 ........ 9:40 AM–10:10 AM and 3:25 PM–3:55 PM
Wednesday, June 19 .............................................. 9:45 AM–10:15 AM

**Poster Setup**
Sunday, June 16 .................................................. 12:00 PM–5:00 PM

**Poster Teardown**
Wednesday, June 19 .............................................. 1:00 PM–2:00 PM
If your poster is not removed before 2:00 PM, it will be removed and placed near the Registration Desk for pickup.
**Poster Presentation Index**

**Poster Categories**

- Young Investigator Award Candidate.......................... P01–P14
- General Pathology/Toxicologic Pathology............... P15–P29, P63
- New Technologies...................................................... P30–P43
- Systemic/Organ-Specific Toxicologic Pathology ........ P44–P55
- Biomarkers................................................................. P56
- Oncology/Carcinogenesis............................................. P57–P62

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**P01** Atopic Dermatitis Promotes Food Allergy through Intestinal Remodeling and Metabolic Perturbances

*Katelin L. Davis, Estefania Claudio-Etienne, Benjamin Schwarz, Derron A. Alves, Lashawna Leak, Karen Laky, Pamela A. Frischmeyer-Guerrerio*

**P02** Role of *Staphylococcus aureus* Superantigens in Atopic Dermatitis Pathogenesis

*Laine E. Feller, Sabrina N. Kline, Jing Zhang, Yu Wang, Nathan K. Archer*

**P03** Time-of-Day Difference in Inflammatory Response and Circadian Clock Gene Expression in Acutely Ozone-Exposed Mice

*Rekha K C, Ishita Choudhary, Yogesh Saini*

**P04** Mapping the Dynamics of Research Trends in Environmental Toxicology: A Twenty-Year Scientometric Analysis

*Vanitha Thurairasu*

**P05** Local Tissue Response to a C-X-C Motif Chemokine Ligand 12 (CXCL12) Therapy for Fecal Incontinence in a Rabbit Model

*Hannah Ruetten, Shannon Lankford, Nicholas Edenhofer, Gopal Badlani, James K. Williams*

**P06** A C-X-C Motif Chemokine Ligand 12 (CXCL12) Therapy for Underactive Bladder in a Rat Model

*Hannah Ruetten, Shannon Lankford, Gopal Badlani, James K. Williams*

**P07** *Pseudomonas aeruginosa*-Derived Volatile Organic Compounds Activate Aryl Hydrocarbon Receptor Signaling and Polarize toward M1 Macrophage, Neutrophils, and Type 17 Immune Responses That Favor Mucus Hypersecretion in Diseased Lungs

*Shanny H. Kuo, Jaishree Sharma, Som Nanjappa, Gee Lau*

**P08** Characterizing the Role of N-6-methyladenosine (m6A) in the Oncogenic Retrovirus HTLV-1

*Emily M. King, Amanda Midkiff, Amanda R. Panfil*

**P09** SREBP1 Drives Lipogenesis and Autophagy to Promote Cell Survival through Fatty Acid Oxidation in Hypoxic Triple-Negative Breast Cancer Cells

*Jae-Ha Jung, Yeseul Yang, Geonh Choi, Hyun-ki Hong, Habin Jang, Yongbaek Kim*

**P10** Paired Single-Cell RNA and T Cell Receptor Sequencing Revealed Clonal Expansion and Differential Gene Expression of the Mutant IL-7R-RasGRP1-Driven Leukemia

*Steven Hsu, Gisele Olinto Libanio Rodrigues, Julie Hixon, Wenqing Li, Scott K. Durum*

**P11** A Novel TGFβ Pathway Reporter Mouse Reveals New Insights into Therapeutic Safety and Tumorigenesis

*Zachary Millman, Yu-an Yang, Christina Stuelten, Hilibet Adissu, Jennifer Dwyer, Mark Simpson, Lalage Wakefield*

**P12** Prenatal Exposure to Cadmium Alters Macrophage Subpopulations in Mouse Placentas

*Briania C. Ames, Shine Wang, Danielle L. Kozlosky, Sean Stratton, Carol R. Gardner, Brian T. Buckley, Debra L. Laskin, Lauren M. Aleksunes*

**P13** 1-Trichloromethyl-1,2,3,4-tetrahydro-beta-carboline (TaClo)-Induced Developmental Toxicity and Neurotoxicity in the Zebrafish Model following the Early-Life Exposure

*Ji-Hang Yia, Katharine Horzmann*

**P14** Effects of Soy Isoflavones on Hormone Secretion in the Male Gond

*Kristen G. Hoehler, Benson T. Akingbemi*

**P15** Characterization of 3D Models of Human Uterine Endometrium for Use in Evaluating the Role of Environmental Toxicants in Endometrial Cancer

*Jinali Liu, Linda Yu, Lysandra Castro, Yitang Yan, Darlene Dixon*

**P16** Intrahepatic Cholangiocarcinoma with Pulmonary Metastasis in a Rhesus Macaque (*Macaca mulatta*)

*Andressa Varella Gonsioroski, Mayra Tsai, Meredith Leigh Cronin, Nicholas Vetter*

**P17** MRI and Histological Measures of Myelination Are Correlated in a Rat Model of BPA Neurotoxicity

*Bradley C. Wright, Joel P. Levoy, Elizabeth M. Fugate, Diana M. Lindquist, Alex Edmondson*

**P18** Neuropathology Evaluation of Olney Lesions in Regulatory Drug Development Toxicology Studies

*Deepa B. Rao, William H. Jordan, David G. Hall*

**P19** Spontaneous Splenic Hemangiosarcoma in a Young Sprague-Dawley Rat

*Fei Zhou, Xixiong Zhao, Yu Ma, Tiansheng Zhou, Yuanyuan Duan, Hegen Dai, Xihua Wang, Yinghong Hu*

**P20** Poster Withdrawn

**P21** Anticoagulant Rodenticide Toxicity in Three Red-Tailed Hawks (*Buteo jamaicensis*) from Northeastern Massachusetts

*Jiaji Feng, Julia Lombarda, Felix Valles Feliciano, Erin Hutchings, Brittiny Rasche*
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P62  Evaluation of the Immune Landscape in a Rat Colon Tumor Model Using Imaging Mass Cytometry  
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STP Exhibition

Exhibit Hall Hours

Exhibit Hall Hours
Sunday, June 16......................... 12:00 Noon~5:00 PM

Exhibitor Setup
(All exhibits must be set up by 5:00 pm on Sunday.)

Sunday, June 16 ......................... 5:30 PM~7:00 PM

Exhibit Hall Hours
Sunday, June 16 ......................... 5:30 PM~7:00 PM

Welcome Reception
Monday, June 17 ......................... 9:00 AM~4:00 PM
Tuesday, June 18 ......................... 9:00 AM~4:00 PM
Wednesday, June 19 ...................... 9:00 AM~1:00 PM

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Exhibitor descriptions available in the mobile app and at: www.toxpath.org/AM2024/exhibits.asp

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