

Society of Toxicologic Pathology

25th Annual Symposium

June 18–22, 2006

VANCOUVER

British Columbia
Canada

*Toxicologic Pathology
of the Respiratory System*

www.toxpath.org—Meeting Details | Registration | Abstract Submission

Abstract Deadline: April 15, 2006

All Vancouver photos are courtesy of Tourism Vancouver (Al Harvey, Colin Jewall, Andy Mons, Tom Ryan, and John Sinal) unless otherwise noted.

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General Information

Toxicologic Pathology of the Respiratory System

STP 2006 Annual Meeting Vancouver

"Toxicologic Pathology of the Respiratory System" is the theme of the 25th Annual Meeting of the Society of Toxicologic Pathology, which will take place June 18–22, 2006, in Vancouver, one of the world's most beautiful and vibrant cities. Vancouver is nestled in a spectacular natural environment between coastal mountains and the Pacific Ocean. The city offers world-class restaurants and unlimited sights and opportunities for exploring the outdoors.

Session topics for this year's symposium are related to the science of inhalation studies, including inhalation exposure systems, the toxicity of inhaled nanoparticles, studies of therapeutic aerosols, and biochemical mechanisms of respiratory disease. Speakers will address techniques of inhalation studies such as morphology and stereology, as well as the molecular pathology of rodent lung tumors. In addition, concepts and emerging targets in pulmonary disease, including asthma, cystic fibrosis, and COPD, and environmental respiratory disease, such as air pollution and cigarette smoke will be covered. There will also be a focus on comparative anatomy, physiology, and pathology of the rodent respiratory tract, including the upper respiratory tract. Individual speakers and session details can be found beginning on page 7.

Continuing Education

NTP Symposium—Saturday, June 17

Pathology of the Urinary System is the topic of the NTP Symposium this year, which is offered on Saturday. This is a free event, but due to limited space, registration is required. See page 7 for additional details.

Continuing Education Courses—Sunday, June 18

Two half-day Continuing Education Courses will be offered this year on Sunday, June 18: "Toxicologic Pathology of the Developing Central Nervous System," and "Application of the Human Relevance Framework to the Analysis of Rodent Tumor Data." See page 7 for course details (additional fee).

Preparing Figures for Publication

New this year

Would you like to know more about making adjustments to your photomicrographs with photoimaging software? For the first time, STP will offer free technology theatre sessions on how to prepare figures for publication and the ethics of image manipulation. These 20-minute sessions will be offered Monday through Wednesday at 7:30 AM and on Monday at 12:30 PM. To sign up for one of the **free** sessions, e-mail stp@toxpath.org. Sign up will also be available at the registration desk at the meeting.

In addition, a photoimaging professional will be available by appointment to answer one-on-one questions at the NTP booth. For more information or to **set up an appointment in advance for a one-on-one session**, contact Norris Flagler (Flagler@niehs.nih.gov) or the new *Toxicologic Pathology* image editor, Beth Mahler (mahler1@niehs.nih.gov).

Exhibit Hall

STP will again host an Exhibit Hall during the meeting for companies offering products and services related to the field of toxicologic pathology. Exhibit space has been significantly expanded this year because last year's exhibition was sold out.

Exhibitor Passport Drawing

Each attendee will receive a passport card listing all participating exhibitors. Attendees must collect one stamp from each exhibitor to be eligible for one of three \$200 American Express gift cards.

Exhibit Space Available

For exhibiting companies, the STP exhibition provides the ideal venue to reach your niche market. The Society values your support and believes the relationship between your company and the STP membership is a mutually beneficial one. STP is expanding the benefits and services provided to the exhibitor. If your company is interested in exhibiting, please contact Libby Jones at (703) 438-7508 for additional information.

General Information

Society of Toxicologic Pathology

Meeting Events

Town Hall Meeting—Monday, June 19

A town hall meeting is tentatively scheduled for Monday, June 19, when members of the STP Scientific Regulatory Policy Committee will discuss their activities.

Awards Ceremony—Wednesday, June 21

STP Awards will be presented at 5:10 PM on Wednesday.

Annual Business Meeting—Wednesday, June 21

The Annual Business Meeting will be held on Wednesday, June 21 at 5:30 PM following the Awards presentations. All attendees are welcome to attend.

Social Events

Welcome Reception

The Welcome Reception will be held on Sunday evening, June 18. Admission to the Welcome Reception is included in the member, non-member, student, and spouse/guest registration fees. Come and enjoy a relaxing evening mingling with friends and colleagues.

President's Reception

The President's Gala Reception will be held on Wednesday evening, June 21. Attire will be business casual.

Student Reception

Attention All Students: on Sunday evening, June 18, the Society invites you to a special reception. This will be a fun opportunity to meet fellow students and interact with scientists representing all facets of the Society, as you discuss your future and the various career paths available to you. This function has been the highlight of past meetings for many students. Come and take advantage of the unique networking opportunity.

Vancouver, British Columbia

Vancouver was chosen to host the 2010 Olympic Winter Games and was recently voted "Best City in the Americas" by readers of Conde Nast Traveller Magazine. Vancouver has become known as one of the top international restaurant cities with its unique Pacific northwest cooking and a wide offering of other cuisines. You may want to plan for extra time in the Vancouver area

to visit some of the many nearby attractions. The following Web sites offer tour information: www.tourismvancouver.com/visitors and www.discovervancouver.com.

Stanley Park



Stanley Park is a 1000 acre rainforest on the city's West End. The seawall along the waterside edge of the park is a favorite destination for cyclists and pedestrians to enjoy the outdoors. Another

popular park attraction is a collection of Totem Poles at Brockton Point. The Vancouver Marine Science Centre with more than 8000 species is also located in Stanley Park.



Granville Island Market

This is a popular site for visitors and shoppers looking for the unique and unusual. The public markets offer boundless opportunities for fresh produce, meats, fish, and baked goods. You can easily spend a full day browsing the diverse range of shops, stalls, galleries, and theatres available on the Island. Everything from pottery, books, clothing, glassware, beads, books and many specialty stores featuring tea, wine, or kitchenware can be found here. A Kids Only Centre has fantastic gift ideas for kids of all ages.

Dr. Sun Yat-Sen Classical Chinese Garden



In the heart of downtown Vancouver, Dr. Sun Yat Sen Classical Chinese Garden offers a cultural experience. As the first authentic classical Chinese garden built outside of China, it is a feast for the senses and is acclaimed for providing peace, tranquility, and a harmonious delight for the visitor.

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Capilano Suspension Bridge and Park

The Capilano Suspension Bridge and Park is conveniently located ten minutes from downtown Vancouver through Stanley Park over Lions Gate Bridge and north one mile on Capilano Road. The footbridge, which was originally built in 1889 and is the fourth bridge at this location, is 450 feet across and 230 feet above the Capilano River.



Victoria, British Columbia and Vancouver Island



Victoria is a city of 300,000 on the southern tip of Vancouver Island, which is 50 miles across the Strait of Georgia and only accessible by a 90-minute ferry ride or floatplane. Victoria is a charming city with many preserved buildings situated on a beautiful harbor. Visitors can enjoy seeing the island

from a traditional London-style double-decker bus, go mountain biking, or whale watching. Butchart Gardens and the Royal B.C. Museum are other popular attractions in Victoria.

Visit www.toxpath.org for up-to-date meeting information.

Hotel Information



Nestled between the majestic coastal mountains and the tides of the Pacific Ocean, on Canada's west coast, lies Vancouver, a city that attracts travelers from around the world who are drawn to its breathtaking scenery and energetic lifestyle.

At the very heart—Vancouver's castle, The Fairmont Hotel Vancouver. Like the city that surrounds it, it is rich in history, resplendent in natural beauty, vibrant, and cosmopolitan. Outside of the hotel doors are Vancouver's business, cultural, and entertainment districts. Within, you will discover a hotel designed to please.

STP has reserved a limited block of discounted rooms at Fairmont Hotel Vancouver. You can make your hotel reservation on-line, by telephone, or by e-mail. All cancellations and changes should be made directly with the hotel. Hotel reservation deadline is May 9, 2006.

Fairmont Hotel Vancouver
900 West Georgia Street
Vancouver, BC V6C 2W6 Canada
Telephone Reservations: (800) 441-1414 /
(604) 684-3131

(Please make sure to identify that you are with STP.)

On-Line Reservations:

Visit the STP Group Hotel link, (the group code is already entered). Be sure to select "Fairmont Hotel Vancouver" from the menu. (There are two other Fairmonts in Vancouver.) Or visit the Fairmont Vancouver on-line at

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www.fairmont.com/hotelvancouver, select “Make a Reservation” and enter the STP Code: GRTOX11.

E-mail Reservations: hvcreservations@fairmont.com. Please make sure to identify that you are with STP.

Room Rates

Fairmont Rooms	\$212 (Canadian)	\$172* (US)
Fairmont Gold	\$312 (Canadian)	\$244* (US)
Suites From	\$392 (Canadian)	\$301* (US)

**The actual U.S. room rate will be based on the current exchange rate at the time of hotel checkout.*

Travel Information

Required Documents to Enter Canada for U.S. Citizens

Citizens of The United States will need proof of citizenship (a valid passport, or a driver's license together with a birth certificate) to enter Canada and also to reenter the U.S. More information is available on the State Department Web site at <http://travel.state.gov>.

Required Documents to Enter Canada for Citizens of Countries Other than the U.S.

Please visit the Canadian Embassy Web site at www.cic.gc.ca to determine your specific traveling requirements or contact the nearest Canadian Embassy, High Commission, or consulate in your region. Attendees from countries other than the U.S. must have a valid passport and may require other documentation such as visas.

Currency Exchange

Currency can be exchanged at downtown banks and at the Vancouver International Airport. Banks, stores, hotels, and restaurants accept travelers' cheques with picture identification.

\$1.00 United States Dollars (on February 16, 2006) is equivalent to \$1.16 Canadian Dollars. Visit The Bank of Canada at www.bankofcanada.ca/en/rates/exchange.html for current exchange rates.

A Special Note for the Physically Challenged

STP wishes to take steps to ensure that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently than other individuals because of the absence of auxiliary aids and services. If you need any auxiliary aids or services identified in the Americans

with Disabilities Act, or any assistance in registering for this meeting, please contact STP Headquarters at (703) 438-7508 or e-mail stp@toxpath.org.

Attire

The attire for the 2006 STP Annual Symposium is casual. Vancouver enjoys warm, comfortable summers that are rarely scorching. June to August daytime temperatures linger just above 20°C (70°F). Evenings, especially in the surrounding mountains, can be cool, so it's best to pack a light jacket and sweater. A sweater may also be needed for the air-conditioned meeting rooms.

Transportation

Airports/Airline Reservations

Vancouver International Airport (YVR) services major domestic and international carriers, with nonstop flights from Asia, Europe, and North America. Navigant Travel can also assist you with making your airline reservations. Contact them at (800) 525-6061/direct (703) 276-2030, or niki.markun@ne.navigant.com. The airport is approximately 25 minutes from downtown Vancouver.



Shuttle Services

“Airporter” offers transfer service between the Vancouver International Airport and all major downtown hotels. Available at The Fairmont Hotel Vancouver Burrard Street entrance every 15-20 minutes. For more information please call (800) 668-3141.

Travelling by Bus

Greyhound offers daily service to points within British Columbia (including Whistler and Nanaimo), Canada, and the U.S. This service operates out of the Pacific Central Station at 1150 Station Street, at the intersection of Main Street and Terminal Avenue. For more information, please call (604) 482-8747 or log onto their Web site at www.greyhound.com.

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Train Service

The train station is located approximately 1.5 miles from The Fairmont Hotel Vancouver.

- Amtrak—offers service to Seattle and points beyond in the U.S. Passengers clear customs at the station to avoid a border stop. Amtrak can be reached by calling 1 (800) 872-7245 or log onto their Web site at www.amtrak.com.
- Via Rail—offers train service to cities in Canada. The Pacific Central Station is located at 1150 Station Street on the corner of Main Street and Terminal Avenue. Via Rail can be reached by calling (800) 561-8630 or log onto their Web site at www.viarail.ca.
- SkyTrain—offers service within Greater Vancouver and to Burnaby, New Westminster, and Surrey. Please feel free to contact TransLink at (604) 521-0400 or log onto their Web site at www.translink.bc.ca.

Ground Transportation

BC Transit is easily accessible from downtown Vancouver to various attractions around the city by using TransLink. Adult fares range from \$1.50–\$3. A Day Pass, available for unlimited one-day travel, is \$8. For more information, please visit their Web site at www.translink.bc.ca/.

Taxis are readily available at The Fairmont Hotel Vancouver's driveway and can be obtained from the Doorperson. Most downtown runs cost \$5–10. From downtown to Airport costs \$25–30. Vancouver's major taxi companies include Yellow Cab (604) 681-1111 and Black Top Cabs (604) 681-2181.

Getting Around Town

Vancouver's rush hours are from 7:30 AM–9:00 AM and 4:00 PM–6:00 PM but is mild compared to other North American rush hours. Speed limits are posted in kilometers, headlights must be on at all times, and wearing seat belts is mandatory. Parking is limited in downtown area but parking lots and garages are plentiful. Valet parking is available at The Fairmont Hotel Vancouver for \$27 per night and includes in/out privileges.

Car Rental Companies

Different car rental companies are available at the Vancouver International Airport and some are near The Fairmont Hotel Vancouver. The nearest is Avis, which is located opposite to the driveway of the hotel. For your convenience, here is a list of several car rental companies:

Avis: (800) 879-2847

Budget: (800) 268-8900

Hertz: (800) 263-0600

Thrifty: (800) 367-2277

Tilden: (800) 387-4747



Agenda

Society of Toxicologic Pathology

SATURDAY, JUNE 17

NTP Satellite Symposium— Pathology of the Urinary System

This year's NTP Satellite Symposium will focus on the Urinary System. The interactive symposium is organized by Susan Elmore, MS, DVM, DACVP of NIEHS. The object of this symposium hasn't changed from the last couple of years—it is to provide continuing education on interpreting pathology slides, to generate lively and productive conversation, and to have a good time. This is a free session, for meeting attendees, but due to space limitations, registration is required. The NTP Satellite Symposium agenda is on-line at www.toxpath.org.

Continuing Education Credits

AAVSB RACE Provider #56
Contact www.aavsb.org

The half-day continuing education courses during the Annual Meeting meet the requirements for **four hours** of classroom delivery continuing education credit in the medical/surgical in jurisdictions that recognize AAVSB's RACE approval; however participants should be aware that some boards have limitations on the number of hours accepted in certain categories and/or restriction on certain methods of delivery. **Twenty hours** of classroom delivery is given for attendance at the scientific sessions.

SUNDAY, JUNE 18

CE Courses

Continuing Education Course Chair: Lynda Lanning, DVM, DABT, Otsuka Maryland Research Institute, Rockville, MD

CE 1 Toxicologic Pathology of the Developing Central Nervous System

8:00 AM–11:55 AM

Chair: Olga Pulido, MD, MSc, A Board Path, FIATP, Bureau of Chemical Safety, Health Products and Food Branch, Health Canada & University of Ottawa Department of Pathology and Laboratory Medicine, Ottawa, Ontario, Canada

The developing brain has a distinct set of characteristics resulting in greater sensitivity to damage by toxic agents compared to the adult brain. The consequences of early exposure to neurotoxins in foods, environmental contaminants, therapeutics etc., can be very subtle. Its long-term impact on human health can be serious and may only be evident after prolonged latency. A causal relationship between chemical exposure

and neurotoxic effects is therefore often difficult to determine. Neuropathology is an essential component of developmental neurotoxicity assessment for regulatory purposes. The toxicologic pathologist is challenged by the interdependence of the sequence of complex biologic processes underlying the development of the central nervous system and the regional differential structural vulnerability of the immature brain to various chemicals. The methodology, the experimental design, knowledge of developmental neurobiology, mechanistic base neurotoxicology and the clinical functional implications are all important guides to the pathologist in detecting and interpreting chemical induced effects. The objective of this course is to provide general toxicologic pathologists, regulators, toxicologists and related biomedical disciplines with an overview of current knowledge and practices relevant to "Developmental Neuropathology," their implications to "Neurotoxicology and Human Health Risk Assessment."

8:00 AM–8:05 AM Introduction

Olga Pulido, MD, MSc, A Board Path, FIATP

8:05 AM–8:55 AM Developmental Neurotoxicity Studies—Neuropathology Procedures and Pitfalls

Robert H. Garman, DVM, DACVP, Charles River Laboratories Pathology Associates, Murrysville, PA

This session provides an overview of procedures followed in the conduct of the neuropathology component of DNT studies in rodents. Topics to be discussed include recommended stains, procedures for obtaining homologous sections, brain regions to be measured, advantages and disadvantages of evaluating brains from young-aged rodents (e.g. PND 12 vs. PND 22), and guidelines for interpreting the biologic significance of morphometry data.

8:55 AM–9:45 AM Developmental Neuropathology of Environmental Agents: The Issue of Silent Neurotoxicity

Michael Aschner, PhD, Vanderbilt University Medical Center, Nashville, TN

The central nervous system is the most vulnerable of all body systems to developmental injury. This lecture will focus on developmental processes by which the nervous system is formed and how those processes are known or suspected to be injured by toxic agents within the context of environmental exposures.

9:45 AM–10:15 AM Break

10:15 AM–11:05 AM Drug-Induced Developmental Neuroapoptosis

John W. Olney, MD, Washington University School of Medicine, St. Louis, MO

Agenda

Toxicologic Pathology of the Respiratory System

Recent evidence documents that exposure of the immature brain to various classes of drugs (including general anesthetics, anticonvulsants, and several drugs of abuse) during the period of synaptogenesis can trigger widespread neuroapoptosis in the developing brain. Methods for studying this newly discovered form of toxicologic pathology will be described.

11:05 AM–11:55 AM Overcoming the Challenges Faced by the General Pathologist Conducting Developmental Neuropathology Studies for Toxicology Assessments
Olga Pulido, MD, MSc, A Board Path, FIATP

Children health and the developmental impact of pre- and post-natal toxic exposures to environmental contaminants are key concerns on “Food Chemical Safety and Environmental Toxicology.” Neuropathology is a pivotal component of developmental toxicology. Our experience conducting neuropathology assessments for DNT rat studies, relevant to human exposures to chemical contaminants, will provide the basis for discussion.

CE 2

Application of the Human Relevance Framework to the Analysis of Rodent Tumor Data

1:00 PM–4:55 PM

Co-Chairs: Jerry F. Hardisty, DVM, Fellow IATP, Experimental Pathology Laboratories, Inc., Research Triangle Park, NC and Douglas C. Wolf, DVM, PhD, Fellow IATP, U.S. Environmental Protection Agency, Durham, NC

In order to develop a scientifically defensible assessment of the risk for cancer after long-term exposure to xenobiotics, regulatory agencies have adopted a uniform approach, which includes the characterization of a carcinogenic mode of action and its biological plausibility in exposed humans. The Human Relevance Framework (HRF) and Mode-of-Action (MoA) analysis is used to assess the relevance of an increased frequency of neoplastic lesions in rodents identified in carcinogenicity studies. This approach provides a framework for assessing possible cancer risks from exposures to pollutants or other agents in the environment. The goal is to make greater use of the scientific understanding of carcinogenesis. The process includes analysis of all available information, identifying the key events in the cancer process from exposure to adverse health consequence, mode(s) of action, a description of the biological plausibility for the MoA to occur in humans, consider differential susceptibility to subpopulations, and finally characterizing the risk to humans based on the weight of scientific evidence. The MoA is considered biologically plausible in humans unless there is mechanistic evidence to refute this conclusion. Default approaches to risk assessment are only used when there are insufficient data to support a mode of action analysis and human relevancy approach. This basic continuing education course will provide an overview of how the human relevance framework and mode-of-action analysis

is applied in the interpretation of study results derived from carcinogenicity bioassays and its application in the submission of study data to regulatory agencies. The course will start with an overview of the cancer risk assessment guidance and then present specific examples for the urinary tract, liver, and thyroid.

1:00 PM–1:05 PM Introduction

Jerry F. Hardisty, DVM, Fellow IATP

1:05 PM –1:55 PM Guidance on Mode of Action Analysis and Human Relevancy: An Agency Perspective

Douglas C. Wolf, DVM, PhD, Fellow IATP

The Environmental Protection Agency has finalized a guidance document for how to incorporate data into the characterization of a scientifically defensible mode of action for use in cancer risk assessment. How mode of action analysis is developed and biological plausibility for humans is assessed will be presented.

1:55 PM–2:45 PM The Human Relevance of Urothelial Tumors in Rodents

Samuel M. Cohen, MD, PhD, Fellow IATP, University of Nebraska Medical Center, Omaha, NE

Several precursor events have been identified in the tumorigenicity of renal and urothelial tumors in rodents which can be evaluated with respect to their relevance to humans. These include DNA reactivity, toxicity and regeneration, mitogenesis, or alterations in normal physiological urinary processes of the species.

2:45 PM–3:15 PM Break

3:15 PM–4:05 PM Application of Mode of Action and the Human Relevance Framework for Hepatocellular Neoplasms

Richard T. Miller, DVM, PhD, GlaxoSmithKline, Research Triangle Park, NC

This presentation will address the DNA-reactive and epigenetic modes of action for rodent hepatocarcinogens. The application of these modes of action in human risk assessment will be discussed in the context of the Human Relevance Framework and from a risk benefit approach.

4:05 PM–4:55 PM Application of Mode of Action and the Human Relevance Framework for Thyroid Follicular Cell Neoplasms

Charles C. Capen, DVM, PhD, Fellow IATP, The Ohio State University, Columbus, OH

This presentation will discuss the modes of action by which xenobiotic chemicals result in hormonal imbalances and increase the incidence of thyroid follicular cell neoplasms in rodents. The mode of action by which different chemicals disrupt thyroid hormone economy will be examined in the framework of human relevance analysis.

Agenda

Society of Toxicologic Pathology

- 4:30 PM–6:30 PM **Exhibit Hall Open**
5:00 PM–6:30 PM **Welcome Reception**
6:45 PM–7:30 PM **Student Reception**—All attendees are invited to come and meet the individuals who represent the future of Toxicologic Pathology.

MONDAY, JUNE 19

Scientific Sessions

Program Chair: Amy Brix, DVM, PhD, DACVP, Experimental Pathology Laboratories, Inc.

Scientific Chair: Rodney Miller, DVM, PhD, Experimental Pathology Laboratories, Inc., Hillsborough, NC

MONDAY MORNING

- 7:00 AM–8:00 AM **Continental Breakfast**
7:00 AM–11:00 AM **Exhibits and Poster Sessions Open**
7:30 AM–7:50 AM **Technology Theatre Session—How to Prepare Figures for Publication and the Ethics of Image Manipulation**
8:00 AM–8:10 AM **Welcome**
Nancy Everds, DVM, DACVP, STP President, Stine Haskell Research Center/DuPont Haskell Laboratory, Newark, DE
8:10 AM–9:00 AM **Keynote Address: Genetic Basis of Pulmonary Disease**
David Schwartz, MD, Director NIEHS, Research Triangle Park, NC

Dr. David Schwartz is the director of the National Institute of Environmental Health Sciences and the National Toxicology Program at the NIH. Dr. Schwartz has focused his research on the genetic and biological determinants of environmental and occupational lung disease. These research efforts have provided new insights into the pathophysiology and biology of asbestos induced lung disease, interstitial lung disease, genetic regulation of environmental asthma, and innate immunity.

Session I: The Science of Inhalation Studies

9:00 AM–12:00 NOON

Co-Chairs: Jack Harkema, DVM, PhD, DACVP, Michigan State University, East Lansing, MI and Kristen Nikula, DVM, PhD, DACVP, Pfizer, Inc., Chesterfield, MO

This first session will provide an overview of inhalation toxicology and respiratory toxicological pathology. The design and operation of inhalation exposure systems, the unique methods used to expose animals to inhaled xenobiotics, and the toxicity of inhaled nanoparticles will be presented.

- 9:05 AM–9:10 AM **Session Introduction**
Jack Harkema, DVM, PhD, DACVP
Kristen Nikula, DVM, PhD, DACVP
9:10 AM–10:00 AM **An Introduction to Inhalation Toxicology and Respiratory Pathology**
Kristen Nikula, DVM, PhD, DACVP
10:00 AM–10:30 AM **BREAK**
10:30 AM–11:15 AM **Inhalation Exposure Systems: Design, Methods, and Operation**
Brian Wong, PhD, CIIT Centers for Health Research, Research Triangle Park, NC
11:15 AM–12:00 NOON **Toxicity of Inhaled Nanoparticles**
Gunter Oberdorster, DVM, PhD, University of Rochester, Rochester, NY
12:00 NOON–4:30 PM **Exhibits and Posters Open**
12:15 PM–1:30 PM **Lunch on Own**
12:30 PM–12:50 PM **Technology Theatre Session—How to Prepare Figures for Publication and the Ethics of Image Manipulation**

MONDAY AFTERNOON

Session II: Toxicology of Inhalation Studies

1:30 PM–5:15 PM

Co-Chairs: Jack Harkema, DVM, PhD, DACVP, Michigan State University, East Lansing, MI and Kristen Nikula, DVM, PhD, DACVP, Pfizer, Inc., Chesterfield, MO

In this session, inhalation studies of urban atmospheres as well as efficacy and safety studies for therapeutic aerosols will be presented. There will be discussion of biochemical mechanisms commonly involved in respiratory disease. The session will conclude with a presentation on the integration of pathology and dosimetry in inhalation toxicology.

- 1:30 PM–1:35 PM **Session Introduction**
Jack Harkema, DVM, PhD, DACVP
Kristen Nikula, DVM, PhD, DACVP
1:35 PM–2:20 PM **Characterization of Urban Atmospheres for Inhalation Exposure Studies**
Gerald J. Keeler, PhD, University of Michigan, Ann Arbor, MI
2:20 PM–3:05 PM **Inhalation Studies of Therapeutic Aerosols**
Chet Leach, PhD, DABT, Lovelace Respiratory Research Institute, Albuquerque, NM
3:05 PM–3:45 PM **BREAK**
3:45 PM–4:30 PM **Biochemical Mechanisms of Respiratory Disease**
Edward M. Postlethwait, PhD, University of Alabama at Birmingham, Birmingham, AL

Agenda

Toxicologic Pathology of the Respiratory System

4:30 PM–5:15 PM **Integrating Pathology and Dosimetry in Inhalation Toxicology: Using Mice and Models to Understand Mechanisms**

Jack Harkema, DVM, PhD, DACVP

5:30 PM–6:30 PM **Town Hall Meeting**—Members of the STP Scientific Regulatory Policy Committee will discuss their activities.

TUESDAY, JUNE 20

TUESDAY MORNING

7:00 AM–8:00 AM **Continental Breakfast**

7:00 AM–1:30 PM **Exhibits and Poster Sessions Open**

7:30 AM–7:50 AM **Technology Theatre Session—How to Prepare Figures for Publication and the Ethics of Image Manipulation**

Session III: Methodologies for Respiratory System Studies

8:00 AM–12:15 PM

Chair: Robert Maronpot, DVM, DACVP, NIEHS, Research Triangle Park, NC

Sophisticated and quantitative analyses of lung changes such as morphometry and stereology augment histopathology in the study of respiratory disease. Non-terminal evaluation of lung changes by magnetic resonance imaging and special imaging protocols can allow for time-course studies on individual animals. These topics, as well as a presentation on the molecular pathology of rodent lung tumors, will be covered in session III.

8:00 AM–8:05 AM **Session Introduction**
Robert Maronpot, DVM, DACVP

8:05 AM–8:50 AM **Quantifying Respiratory Pathology: Avoiding the Biases**
Charles Plopper, PhD, University of California Davis, CA
Dallas M. Hyde, PhD, MS, University of California Davis, CA

8:50 AM–9:50 AM **Imaging Techniques for Small Animal Models of Pulmonary Disease: MR Microscopy and Mico-CT**
Laurence Hedlund, PhD, Duke University Medical Center, Durham, NC
Kennita Johnson, DVM, PhD, NIEHS/NIH, Research Triangle Park, NC

9:50 AM–10:20 AM **BREAK**

10:20 AM–11:05 AM **Detection of Preinvasive Lung Cancer: the LIFE Project Experience**

Gordon Flake, MD, PhD, NIEHS/NIH Research Triangle Park, NC

11:05 AM–11:50 AM **Molecular Pathology of Lung Tumors in Mice from NIEHS/NTP Studies**
Robert Sills, DVM, PhD, DACVP, NIEHS/NIH, Research Triangle Park, NC

TUESDAY AFTERNOON—FREE TIME

WEDNESDAY, JUNE 21

WEDNESDAY MORNING

7:00 AM–8:00 AM **Continental Breakfast**

7:00 AM–1:30 PM **Exhibits and Poster Sessions Open**

7:30 AM–7:50 AM **Technology Theatre Session—How to Prepare Figures for Publication and the Ethics of Image Manipulation**

Session IV: Current Concepts in Pulmonary Disease

8:00 AM–12:00 NOON

Chair: Tom March, DVM, PhD, DACVP, Lovelace Respiratory Research Institute, Albuquerque, NM

This session will summarize much of the latest thinking about the diagnostics and pathophysiology of several important pulmonary diseases. Speakers will give an appreciation of how respiratory disease might be induced or exacerbated by environmental influences, particularly by inhaled agents. Clinical management, including prospects of inhalation therapy (pharmaceuticals, biologicals), may be discussed. The final presentation in this session will be on comparative pathology of pulmonary neoplasia and diagnostic methodologies in tumor identification.

8:00 AM–8:05 AM **Session Introduction**
Tom March, DVM, PhD, DACVP

8:05 AM–8:45 AM **Fibrotic Lung Disease**
Nasreen Khalil, MD, FRCPC, FCCP, University of British Columbia, Vancouver, BC, Canada

8:45 AM–9:30 AM **Asthma/Allergic Lung Disease**
Charles Plopper, PhD, University of California, Davis, CA

9:30 AM–10:00 AM **BREAK**

10:00 AM–10:45 AM **COPD/Emphysema**
Joanne Wright, MD, FRCP(C), University of British Columbia, Vancouver, BC, Canada

Agenda

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10:45 AM–11:30 AM **Cystic Fibrosis**
Scott Randell, PhD, University of North Carolina, Chapel Hill, NC

11:30 AM–12:00 NOON **Comparative Oncology of Lung Tumors**
*Fletcher Hahn, DVM, PhD, DACVP
Lovelace Respiratory Research Institute,
Albuquerque, NM*

12:00 NOON–1:15 PM **Lunch on Own**

WEDNESDAY AFTERNOON

Session V: Environmental Respiratory Disease

1:15 PM–5:00 PM

Co-Chairs: Dave Malarkey, DVM, PhD, DACVP, NIEHS, Research Triangle Park, NC and Ann Hubbs, DVM, PhD, DACVP, NIOSH, Morgantown, WV

This session will cover the causes, pulmonary responses, pathology, and basic science of environmental respiratory disease. Effects of chronic air pollution in urban and rural settings, emerging occupational lung diseases, and disorders caused by inhaled pollutants will be discussed.

1:15 PM–1:20 PM **Session Introduction**
*Dave Malarkey, DVM, PhD, DACVP
and Ann Hubbs, DVM, PhD, DACVP*

1:20 PM–2:05 PM **Environmental Causes of Lung Disease: An Overview**
*Frank Green, MD, University of Calgary
Calgary, Alberta, Canada*

2:05 PM–2:45 PM **Lung Fibrotic Responses to Particle and Nanoparticle Exposure**
*Jamie Bonner, PhD, CIIT Centers for
Health Research, Research Triangle Park, NC*

2:45 PM–3:00 PM **BREAK**

3:00 PM–3:40 PM **Respiratory and Systemic Effects of Chronic Air Pollution Exposure: Noses, Lungs, Beats, Brains, and Beyond**
*Lilian Calderón-Garcidueñas, MD, PhD,
University of Montana, Missoula, MT*

3:40 PM–4:20 PM **The Effects of Ambient Airborne Particles on The Respiratory System**
*Kent E. Pinkerton, PhD, University of
California-Davis, Davis, CA*

4:20 PM–5:00 PM **The Pathology of Emerging Occupational Lung Diseases**
*William Travis, MD, Memorial Sloan
Kettering Cancer Center, New York, NY*

5:10 PM–5:30 PM **Awards Ceremony**

5:30 PM–6:15 PM **Annual Business Meeting**

7:30 PM–9:00 PM **President's Reception**

THURSDAY, JUNE 22

THURSDAY MORNING

7:00 AM–8:00 AM **Continental Breakfast**

Session VI: Pathology of the Respiratory Tract

8:00 AM–12:00 NOON

Chair: Roger Renne, DVM, DACVP, Battelle Toxicology Northwest, Richland, WA

Session VI will begin with a review of the comparative anatomy of the respiratory system of laboratory animals and humans. A summary of inhalation studies performed by the National Toxicology Program will follow. The rodent nose and larynx will be discussed including anatomy, physiology, and pathology. This session will close with examples of respiratory tract lesions occurring in non-inhalation studies.

8:00 AM–8:05 AM **Session Introduction**
*Roger Renne, DVM, DACVP, Battelle
Toxicology Northwest, Richland, WA*

8:05 AM–8:45 AM **Comparative Gross and Histologic Anatomy of Laboratory Animals and Humans**
*Jack Harkema, DVM, PhD, DACVP,
Michigan State University, East Lansing,
MI*

8:45 AM–9:30 AM **Summary of NTP Pulmonary Toxicants and Carcinogens**
*Darlene Dixon, DVM, PhD, DACVP,
NIEHS Research Triangle Park, NC*

9:30 AM–10:00 AM **BREAK**

10:00 AM–10:45 AM **Upper Respiratory Tract Lesions in Inhalation Toxicology**
*Roger Renne, DVM, DACVP, Battelle
Toxicology Northwest, Richland, WA*

10:45 AM–11:30 AM **Respiratory Tract Lesions in Non-Inhalation Studies**
*Donald Sells, DVM, PhD, DACVP
Battelle Columbus, Columbus, OH*

Registration Information

Toxicologic Pathology of the Respiratory System



Symposium Registration Fees

Member and non-member registration fees include the proceeding booklet, access to all the scientific sessions, exhibit hall, daily continental breakfast, a morning and afternoon coffee break during the scientific sessions, and admission for one to the Welcome Reception and the President's Gala Reception. (Lunches not provided.) A separate registration fee must be paid to attend the continuing education course(s).

Spouse/Guest Registration

The Spouse/Guest registration fee includes continental breakfast (Monday through Thursday) in the STP Guest Hospitality Suite at The Fairmont Hotel Vancouver, one admission to the Welcome Reception Sunday night, and the President's Gala Reception Wednesday evening.

Student Registration

The Student registration fee includes the access to all sessions and exhibits, daily continental breakfast, admission for one to the Welcome Reception, Student Reception, and the President's Gala Reception. A letter of verification from a department chairman **MUST** accompany student registrations. Any student registration received without verification letter will be processed at the higher NON-MEMBER fee. Copies of student identification cards are **NOT** acceptable.

Visit www.toxpath.org for up-to-date meeting details.

Continuing Education Course Registration

STP is pleased to present two, four-hour continuing education courses this year. Attendance for these courses is limited to 150 participants per courses and a separate registration fee per course is required. The registrants will receive the CE syllabi, a CD ROM of the syllabi, and certificate of attendance at the meeting. Please see the Registration Form in this brochure or visit the www.toxpath.org for details.

Registration Instructions

The on-line registration process is fast and convenient—visit www.toxpath.org or register using the registration form in this brochure. Please note that a registration is not considered complete until payment is received. Please call (703) 438-7508, ext. 1443 if you have any questions.

Please DO NOT MAIL REGISTRATION FORMS AFTER May 13, 2006. After May 14, you will have to register on-line or on-site.

Non-members who apply for membership prior to June 30 and who are accepted will receive complimentary dues for the rest of 2006 and the journal issues for the remainder of the year. Please visit the www.toxpath.org to apply for membership.

Cancellation Policy

If you must cancel your registration, all requests must be received in writing by STP Headquarters no later than May 6, 2006. All fees will be refunded less a \$25 processing fee.

Hotel Reservations

Please see hotel information and rates on page 2. You can make your hotel reservation on-line, by telephone, or by e-mail. All cancellations and changes should be made directly with the hotel. Hotel reservation deadline is May 9, 2006.

Meeting Materials

Printed Program books will be available at the registration desk for all meeting attendees. CE Course Syllabi and CD ROMS will also be at the registration desk for attendees who are also registered for one or both continuing education courses. Badges and event tickets will be mailed in advance of the meeting to attendees from the U.S. and Canada. Attendees from countries outside the U.S. or Canada may pick up their badges at registration. Persons who register for the meeting after May 13 will also need to pick up their badges at the meeting.



The 25th Annual Society of Toxicologic Pathology Annual Meeting and Exhibition

June 18–22, 2006

The Hotel Fairmont Vancouver, Vancouver, British Columbia, Canada

MEETING REGISTRATION FORM

To Register
On-Line:
www.toxpath.org

Member ID _____

First Name _____ Last Name _____

Title _____ Department _____

Affiliation/Agency/Institution _____

Address _____

City _____ State _____ Zip _____

Telephone _____ Fax _____

E-mail _____ Do you require any Special Services? _____

NTP Satellite Meeting—Saturday, June 17 (Free event for meeting attendees)

Registration is limited. Please select the correct participation category.

☐ NTP Satellite Meeting: Voting Participant

☐ NTP Satellite Meeting: Non-Voting Participant

REGISTRATION FEES AND CONTINUING EDUCATION COURSES

Advance Registration—Registration must be received by April 1, 2006.

Pre-Registration—Must be received April 2–May 13, 2006.

On-Site Registration—Registrations received after May 13, will be processed On-site.

STP MEMBER

Advance	Pre-Registration	On-Site
<input type="checkbox"/> \$410	<input type="checkbox"/> \$460	<input type="checkbox"/> \$495

NON MEMBER INDUSTRY

Advance	Pre-Registration	On-Site
<input type="checkbox"/> \$615	<input type="checkbox"/> \$665	<input type="checkbox"/> \$700

NON MEMBER GOVERNMENT/ACADEMIC

Advance	Pre-Registration	On-Site
<input type="checkbox"/> \$495	<input type="checkbox"/> \$560	<input type="checkbox"/> \$595

STUDENT

Advance	Pre-Registration	On-Site
<input type="checkbox"/> \$75	<input type="checkbox"/> \$95	<input type="checkbox"/> \$130

GUEST

Advance	Pre-Registration	On-Site
<input type="checkbox"/> \$160	<input type="checkbox"/> \$180	<input type="checkbox"/> \$220

CE Course 1

*Toxicologic Pathology of the
Developing Central Nervous System*

Sunday, June 18 8:00 AM–11:55 AM

Advance Pre-Registration On-Site

☐ \$125 ☐ \$145 ☐ \$165

CE Course 2

*Application of the Human Relevance
Framework to the Analysis of Rodent
Tumor Data*

Sunday, June 18 1:00 PM–4:55 PM

Advance Pre-Registration On-Site

☐ \$125 ☐ \$145 ☐ \$165

TOTAL DUE Total Meeting Registration (Including Guest) + Total Course Registration

\$ _____

For CE course only, add \$100 to course fee.

METHOD OF PAYMENT

Check or Money Order # _____ Government Purchase Order # _____

Credit Card ☐ American Express ☐ Master Card ☐ Visa Name on Card _____

Credit Card # _____ Expiration Date _____/_____/_____

RETURN THIS FORM WITH PAYMENT TO:

Society of Toxicologic Pathology
Meeting Registration
PO Box 758960
Baltimore, MD 21275-8960
Fax: (703) 438-3113

Faxed forms are accepted only
if using credit cards.
U.S. GOVERNMENT PURCHASE
ORDERS MAY BE FAXED OR
MAILED WITH REGISTRATION
FORM

REGISTER ON-LINE: www.toxpath.org

All hardcopy and fax registration information will be
entered on-line by STP staff.

CANCELLATION/REFUND POLICY: All requests for
cancellations and/or refunds must be received in
writing at STP HQ by **May 6, 2006**. These refunds will
be processed, less a \$25 processing fee. Refund requests
received after May 6, 2006 will not be processed.



STP Sponsorship Opportunities

The Society of Toxicologic Pathology's goals cannot be achieved without the generous contributions made by sponsors. The Society has six different sponsorship levels available to interested organizations.

Corporate Sponsorship Opportunities:

\$15,000 Diamond Sponsor

\$10,000 Emerald Sponsor

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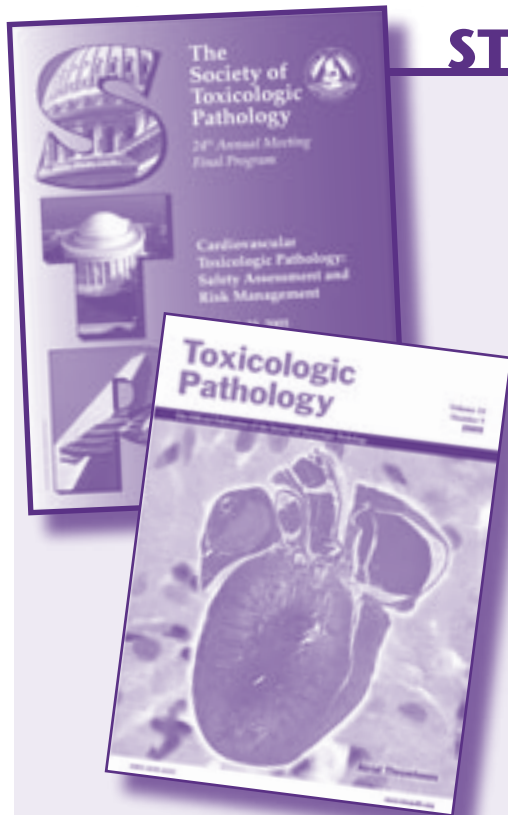
\$2,500 Sapphire Sponsor

\$1,000 Pearl Sponsor

Sponsors will receive recognition before, during, and after the Annual Meeting through postings on the STP Web site, listings in the *Final Program* and Newsletters, on-site signage, and announcements. Specific listings of sponsor benefits can be found at www.toxpath.org. If you and/or your company are interested in being a 2006 Annual Meeting Sponsor, please contact Sue Pitsch at STP Headquarters at (703) 438-7508.

Sponsors will receive acknowledgement at the following activities:

- Conference Refreshments
- Continuing Education Course Refreshments
- Educational Program Refreshments
- Poster Presentations
- President's Reception
- Scientific Sessions
- Student Reception
- Welcoming Reception



STP ADVERTISING OPPORTUNITIES

Place an advertisement in the 2006 Annual Meeting *Final Program* and you will receive a second ad in the STP journal, *Toxicologic Pathology*, Volume 35 (2007), Issue 1, for a bargain cost of \$1000. This is a savings of \$800.

Create a lasting impression with your advertisement in the 2006 Annual Meeting *Program*. Your company name will be prominently available as a source of information during and after the show. You will receive maximum exposure to this niche market *via* the Annual Meeting attendees and the additional readership of the Journal. 100% of the Annual Meeting attendees receive the *Final Program* and 1,300 researchers and research organizations receive the journal.

For more information, please call Libby Jones at (703) 438-7508 ext. 1454 or send an e-mail to libby@toxpath.org.

Annual Meeting Sponsors

Society of Toxicologic Pathology

The Society of Toxicologic Pathology thanks the following Society Sponsors for their generous contributions:

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*Drs. Laura Dill Morton & Daniel Morton
Regan Path/Tox Services*

*If you and/or your company are interested in 2006 Annual Meeting Sponsorship,
please contact STP Headquarters at (703) 438-7508.*

STP Headquarters: 1821 Michael Faraday Drive, Suite 300, Reston, VA 20190
Tel: (703) 438-7508 Fax: (703) 438-3113 Web site: www.toxpath.org

Student Travel Awards

Purpose

Travel Awards are available to Graduate Students for participation in the 25th Annual Symposium of the Society of Toxicologic Pathology.

Recipients will be awarded a grant to defray registration, travel, and lodging costs associated with attending the convention, and complimentary student membership (for 2007). Recipients will be honored at an Awards Ceremony prior to the Annual Business Meeting on Wednesday.

Eligibility

Nominees must currently be enrolled in a full time graduate or residency program in veterinary medicine medical science, medicine, or pathology/toxicology and must have a demonstrated interest in toxicologic pathology. Nomination of candidates who have recently completed (within 12 months) a graduate and/or residency program in toxicologic pathology will also be considered.

Form

The Student Travel Award Application Form is available at www.toxpath.org/studtravelapp.pdf.

Nomination Procedure

The student's faculty advisor must submit a letter of nomination summarizing qualifications of candidate and a *curriculum vitae* of the candidate with a statement of career goals in toxicologic pathology.

Submission of a poster presentation at the Annual Meeting in the area of toxicologic pathology is encouraged but not required.

Deadline

Nomination materials should be submitted by April 1, 2006. Winners will be notified shortly thereafter.

Send all nominations to the Society of Toxicologic Pathology, 1821 Michael Faraday Drive, Suite 300, Reston, VA 20190.

Young Investigator Award

Young Investigator Award winners are drawn from the students who have submitted an abstract. When you submit your abstract, please check the appropriate box if you are interested in applying for the Young Investigator Award. Applicants will receive instructions about the selection process.

Call for Abstracts

STP is pleased to invite pathologists, residents, and students to submit abstracts for poster presentation at the 2006 STP Annual Meeting. Abstracts may be submitted on-line at www.toxpath.org through **April 15, 2006**.

Contents of the poster presentations should pertain in some way to the field of toxicologic pathology but are not limited to "classic" toxicity studies/ issues technologies. Naturally occurring toxicities (including poisonous plants), in any species as well as spontaneous and infectious diseases of species used in toxicity studies are welcome as are mechanistic *in vitro* and molecularly-oriented studies. Studies in alternative species such as fish are also encouraged.

Papers previously published may be submitted and presented, however, only original unpublished work will be published in *Toxicologic Pathology*.

Meeting Timeline

Advance Registration Deadline:

April 1, 2006

Abstract Submission Deadline:

April 15, 2006

Cancellation Deadline:

May 6, 2006

Hotel Reservation Deadline:

May 9, 2006

Pre-Registration Deadline:

May 13, 2006

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The Society of Toxicologic Pathology

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