

TRANSPORTATION OF LABORATORY ANIMALS

A Workshop of the Roundtable on Science
and Welfare in Laboratory Animal Use
(an ILAR Roundtable series)



September 3 - 4, 2014

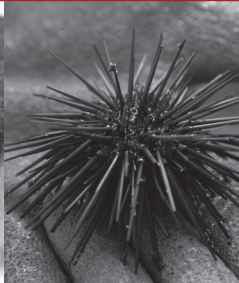
2100 C Street NW

Washington, DC 20418

National Academy of Sciences Building, Room 125

ILAR

Roundtable



Transportation of Laboratory Animals

A Workshop of the Roundtable on Science and Welfare
in Laboratory Animal Use (*An ILAR Roundtable Series*)

September 3 - 4, 2014

2100 C Street NW, Washington, DC 20418

National Academy of Sciences Building, Room 125

Workshop Goals

This public workshop will examine critical issues relating to the transportation of laboratory animals. Invited speakers will address the challenges of transporting laboratory animals humanely and safely. Expected outcomes of this workshop include:

1. Interactive sessions that aim to engage the audience in thinking about appropriate journey planning to support animal welfare while in transport.
 2. Opportunities for the audience to discuss ways to improve transportation for laboratory animals.
 3. A rapporteur-prepared summary of the presentations and discussions of the workshop.
-

Wednesday, September 3

7:30 - 8:30am

Registration

8:30

Opening Remarks

Lida Anestidou, National Academy of Sciences -
Director, ILAR Roundtable

Lynn Anderson, Covance Laboratories - ILAR Roundtable Co-Chair

Morning Session - Moderator: Dianne Garnes, Novartis Corporation, Inc.

8:45

Transporting Live Animals: An Interactive Session

Bruce Kennedy, California State Polytechnic University

C. Ford Morishita, Retired Biology Teacher/Founding Member of the
National Academies Teacher Advisory Council

This session will introduce the attendees to an audience response system that can be used with any tablet or cell phone device. Using this system (which will be used throughout the workshop), the audience will be queried about their opinions and knowledge regarding the intricacies of animal transportation. The session will also discuss how to use "the parking lot" concept.

9:05

Overview of Laboratory Animal Transportation

William White, Charles River Laboratories

This presentation will provide a global overview of animal transportation and examine current trends and process issues involving various transportation modes.

9:25

How Animals Move Through the Air Cargo System

Gregg Pittelkow, Covance, Inc.

Carl Kole, Kole Consulting

This session will focus on the capabilities and limitations of transporting animals by air. The presenters will review relevant International Civil Aviation Authority requirements and operational practices; discuss necessary documentation and training; and analyze the need for safeguards to avoid cargo liability.

10:15

Coffee Break

10:30

What is IATA and How is Air Cargo Controlled?

Bruce Clemmons, FedEx Live Animal Desk

The International Air Transport Association (IATA) among its other responsibilities sets standards for the carriage of animals. This presentation will review the steps of this process including how standards are developed, implemented, and regularly reviewed; and how these standards impact other modes of carriage, and/or transportation guidance promulgated by national and international organizations.

10:50

Crossing International Borders: A European Perspective

Robert Quest, City of London Corporation

Moving animals internationally presents logistical as well as animal health and safety challenges. This presentation will examine the process of crossing borders in the European Union, address some of the difficulties encountered, look at oversight mechanisms, and discuss common errors in international transportation.

11:20

Question & Answer Session - Speakers' Roundtable

William White, Gregg Pittelkow, Carl Kole, Bruce Clemmons, Robert Quest

11:35

Land Transportation: The Process and Requirements

Kenneth Kobus, Charles River Laboratories
Robert Fernandez, Direct Services, Inc.

This session will provide an in-depth review of land transportation. It will focus on the equipment, requirements, documentation, availability, types of providers, and pertinent definitions relating to this mode of transit. It will also review the capabilities and limitations of the process, e.g. environmental control.

12:20 - 1:20pm

Lunch (will not be provided. A cafeteria is located on the lower level of the National Academy of Science Building.)

Afternoon Session - Moderator: Judith Franco, Pfizer, Inc.

1:20

Health Status Before, During, and After Transit

Kathleen Pritchett-Corning, Harvard University

This presentation will review the factors impacting the health of animals during the transportation process. It will discuss the different needs of animals from a research and a public health perspective (e.g. genetically modified animals) and outline mechanisms to prevent cross-contamination during transit, as well as at the point of receipt.

1:45

Life Science Logistics for Lab Animals

Lynn Anderson, Covance, Inc.

This session will review practical issues impacting the safety and well-being of animals in transit: elements relating to behavior, physiology, clinical illness and environmental conditions associated with the transport of laboratory animals.

2:10

Question & Answer Session - Speakers' Roundtable

Kenneth Kobus, Robert Fernandez, Kathleen Pritchett-Corning, Lynn Anderson

2:25

Coffee Break

2:40 - 4:00

Species-Specific Presentations (20 minutes each)

This series of presentations will address container design features; legal requirements and guidelines for containers and shipment; health requirements; and in transit requirements for each of the species designated in the following sessions. Each session will also provide a review of species-specific needs during transit, including necessary care or biological/microbiological issues that need to be addressed.

Nonhuman Primates - Joe Simmons, Insight Diagnostics and Consulting, LLC

Dogs and Ferrets - Andy Smith, Marshall BioResources

Mice, Rats and Small Mammals - William White

Fish - David Lains, University of Oregon

4:00

Question & Answer Session - Speakers' Roundtable

Joe Simmons, Andy Smith, William White, David Lains

Adjourn for the day

Thursday, September 4

7:30 - 8:30am

Registration

8:30

Welcome and Focus of the Day

Carol Clarke, United States Department of Agriculture

Carol Clarke will provide a summary of Day 1 and introduce the themes of Day 2 - namely, regulatory oversight, perspectives regarding the movement of laboratory animals, and interactive exercises regarding transportation planning.

Morning Session - Moderator: Judith Franco

8:45 - 11:00

National and International Regulatory Requirements (15 minutes each)

This series of presentations aims to familiarize the audience with the multiple regulators, guiding principles and documents involved in transporting laboratory animals. Each agency or organization has a unique role in the process and oversees different components of the transport. While there is great complementarity, the number and scope of guidelines and regulations generate uncertainty about successfully meeting the many requirements.

World Animal Health Organization - P. Gary Egrie

United States Customs and Border Patrol - Romelito Lapitan

United States Fish and Wildlife Service - Sharon Lynn

Centers for Disease Control and Prevention - Gale Galland

United States Department of Agriculture - Carol Clarke

10:15

Coffee Break

Considerations at the State Level - Dan Kovich,

Virginia Department of Agriculture and Consumer Services

Question & Answer Session - Speakers' Roundtable

P. Gary Egrie, Romelito Lapitan, Sharon Lynn, Gale Galland,
Carol Clarke, Dan Kovich

11:00

First Interactive Exercise: Journey Planning

David Kurtz, National Institute of Environmental Health Sciences

12:00

Lunch (will not be provided. A cafeteria is located on the lower level of the National Academy of Science Building.)

Interactive exercise will continue through lunch.

Afternoon Session - Moderator: Dianne Garnes

- 1:30 **Second Interactive Exercise: Journey Planning: “Houston, we have a problem.”**
David Kurtz
- 2:30 **How to Inform the Public Regarding Animal Transportation: An Educator’s Perspective**
C. Ford Morishita
- During this session, participants will examine the need for effectively informing the public regarding transportation of research animals including opportunities to teach secondary and post-secondary students and facilitate a deeper understanding of this topic.*
- 2:45 Coffee Break
- 3:00 **The European Perspective**
Kirk Leech, European Animal Research Association
- This session will focus on a comparison of US and European practices regarding animal transportation; an analysis of international collaborations meant to facilitate animal transport; and a discussion of common problems and challenges.*
- 3:25 **Lab Animal Transportation: An Academic Shipper’s Perspective**
Steven Leary, Washington University
- The animal care and use program at Washington University in St. Louis, Missouri (WU) serves approximately 400 principal investigators. The Division of Comparative Medicine coordinates approximately 225 imports and 325 exports annually to/from approximately 160 locations within the USA and 20 countries. This presentation will use the WU experience as a basis for discussion, including the role of the shipping coordinator, steps involved in the import/export processes including documentation types, information review, verification and approval, and troubleshooting common difficulties.*
- 3:45 **It’s Not Personal, It’s Business: A Carrier’s Perspective**
Carl Kole
- The title of this presentation is meant to capture the obligations faced by a carrier, including but not limited to the logistics of animal transportation, the regulatory requirements that have to be addressed, and any common problems with commensurate solutions.*
- 4:05 **Question & Answer Session - Speakers’ Roundtable**
David Kurtz, C. Ford Morishita, Kirk Leech, Steven Leary, Carl Kole
- 4:20 **Meeting Summary and Steps Forward**
Robert Dysko, University of Michigan Medical School
-

Transportation of Laboratory Animals Workshop Interactive Sessions Disclaimer

Real-time interaction with the workshop audience, both physically present and remote, will be achieved through using a web-based system called Poll Everywhere. Poll Everywhere allows participants to use their computers or mobile devices to cast votes, answer multiple-choice questions, ask questions and make comments on presentations that are happening in real time. Poll Everywhere will be managed by the presenter, and questions and comments will be moderated before they are made visible. This system will allow the presenter to gauge his audience's knowledge and understanding of the topics at hand, as well as conduct informal, anonymous polls regarding what might be sensitive topics. The submissions will be anonymous.

In addition, participants will be able to ask more general questions, make comments and otherwise respond to the presentations and presenters.

Comments and questions from participants viewing the webcast can be submitted remotely via a web form. The in-person workshop audience can submit their questions via sticky notes on a poster board. This forum is meant to invite more general questions or comments and to perhaps bring up issues or topics that have not yet been touched on and may be relevant to the overall conversation. The questions will be monitored by a staff member, aggregated and presented to the moderators at every break in the workshop so that the questions and comments can be discussed during the following session.

A summary of this workshop, written by a rapporteur, will be published by the National Academies Press. By entering this area or by participating via the webcast you consent to your questions being recorded or used in any written media now known or hereafter devised in perpetuity and you release the National Academy of Sciences, Institute of Medicine, National Academy of Engineering and the National Research Council from any liability due to such usages.

If you do not wish to be subject to the foregoing, please do not enter this area or take part in the webcast.

Roundtable on Science and Welfare in Laboratory Animal Use Members

<p>Lynn C. Anderson, Co-Chair Vice President Global Animal Welfare and Comparative Medicine Covance Laboratories, Inc.</p>	<p>Steven Niemi, Co-Chair Liaison to the American College of Laboratory Animal Medicine Director, Office of Animal Resources Harvard University Faculty of Arts and Sciences</p>
<p>Paul A. Locke, Liaison to ILAR Council Associate Professor Department of Environmental Health Sciences Johns Hopkins School of Public Health</p>	<p>David Anderson Executive Director Health Sciences Administration University of Washington</p>
<p>Bonnie V. Beaver Professor, Department of Small Animal Clinical Sciences College of Veterinary Medicine Texas A&M University</p>	<p>Pamela Chamberlain Veterinary Medical Officer and Institutional Official for the WOAP Office of Counterterrorism and Emerging Threats Food and Drug Administration</p>
<p>Carol Clarke Research Specialist Staff Officer United States Department of Agriculture, Animal and Plant Health Inspection Service, Animal Care</p>	<p>Robert C. Dysko Clinical Professor, Unit for Laboratory Animal Medicine University of Michigan Medical School</p>
<p>James Fox Professor and Director Division of Comparative Medicine Massachusetts Institute of Technology</p>	<p>Dianne Garnes Global Animal Welfare Officer Pharmaceutical Division Novartis Corporation</p>
<p>Gail C. Golab Director, Animal Welfare Division American Veterinary Medical Association</p>	<p>Donna Matthews Jarrell Attending Veterinarian and Director Center for Comparative Medicine Massachusetts General Hospital</p>
<p>Bruce W. Kennedy Compliance Associate California State Polytechnic University Cal Poly Pomona - Office of Research</p>	<p>David M. Kurtz Veterinary Staff Scientist National Institute of Environmental Health Sciences</p>
<p>Margaret S. Landi Chief of Animal Welfare, Ethics, and Strategy GlaxoSmithKline</p>	<p>Kent Lloyd Professor and Head Mouse Biology Program University of California, Davis</p>
<p>Lawrence Schook Professor Office of the Vice President for Research University of Illinois at Urbana - Champaign</p>	<p>Susan Brust Silk Director, Division of Policy and Education Office of Laboratory Animal Welfare National Institutes of Health</p>
<p>William J. White Corporate Vice President Veterinary and Professional Services Charles River Laboratories</p>	<p>John C. Wingfield Assistant Director, Biological Sciences US National Science Foundation</p>
<p>Robert H. Wurtz NIH Distinguished Investigator Laboratory of Sensorimotor Research National Eye Institute National Institutes of Health</p>	

Committee for Transportation of Laboratory Animals

<p>Carol Clarke, Co-Chair Research Specialist Staff Officer United States Department of Agriculture, Animal and Plant Health Inspection Service, Animal Care</p>	<p>William J. White, Co-Chair Corporate Vice President Charles River Laboratories</p>
<p>Judith B. Franco Associate Director of Comparative Medicine Pfizer, Inc.</p>	<p>Dianne Garnes Global Animal Welfare Officer Novartis Corporation</p>
<p>Bruce W. Kennedy Compliance Associate California State Polytechnic University</p>	<p>Robert Dysko Clinical Professor, Unit for Laboratory Animal Medicine University of Michigan Medical School</p>
<p>Susan Brust Silk Director, Division of Policy and Education Office of Laboratory Animal Welfare National Institutes of Health</p>	<p>C. Ford Morishita Retired Biology Teacher Founding Member of the National Academies Teacher Advisory Council</p>
<p>David M. Kurtz Veterinary Staff Scientist National Institute of Environmental Health Sciences</p>	

Committee Members and Staff Biosketches

COMMITTEE MEMBERS

Carol Clarke, DVM received her Bachelor's degree in the Natural Sciences from Johns Hopkins University and her DVM degree from the Tuskegee School of Veterinary Medicine. After receiving her DVM, she practiced small animal medicine in New York City for 13 years before entering the laboratory animal medicine training program at SmithKline Beecham Pharmaceuticals located in King of Prussia, Pennsylvania. Upon completion of the program, she entered the National Institutes of Health in 1998 as the primate facility veterinarian for the Veterinary Resources Program. In 2001, she accepted a position with the Comparative Medicine Branch of the National Institute of Allergy and Infectious Diseases (NIAID) and became a Diplomate of the American College of Laboratory Animal Medicine in 2005. During her 10 years with NIAID, she served as Institutional Animal Care and Use Committees Coordinator, Vice Chair of the Rodent Gnotobiotic Committee, and Chief of Shared and Central Facility Operations. In addition, she prepared all USDA, Office of Laboratory Animal Welfare, and Association for Assessment and Accreditation of Laboratory Animal Care, International annual reports. Carol Clarke accepted a position with the U.S. Department of Agriculture in 2011, and currently serves as the Research Specialist Staff Officer at APHIS-Animal Care Headquarters located in Riverdale, Maryland. Her duties include serving as the USDA Animal Care Representative for PRIMR, ICCVAM, and the National Veterinary Accreditation Program.

William J. White, VMD received his VMD degree from the University of Pennsylvania (1970); his Master of Science degree in laboratory animal medicine from The Pennsylvania State University (1972); and his Bachelor of Science degree from The Pennsylvania State University (1966). Prior to joining Charles River, Dr. White was a tenured Associate Professor of Comparative Medicine of the College of Medicine at the Milton S. Hershey Medical Center where he conducted basic research in a number of areas involving the effects of environmental variables on laboratory animals and laboratory animal anesthesia. In 1988 he joined Charles River as Director of Professional Services, subsequently holding a number of positions in the organization, and is currently Corporate Vice President for Veterinary and Professional Services. In this capacity, he oversees the corporation's world-wide diagnostic and professional services activities as well as its corporate biosecurity program. While at Charles River, he has continued to head corporate research programs in environmental factors influencing animal performance as well as other areas involving the care and use of animals in a research environment. He has authored or coauthored 75 peer-reviewed research articles or book chapters. Dr. White served on the ILAR committee that developed the 1996 Laboratory Animal Management Guide for Rodents and on the ILAR committee that developed the Guide for the Care and Use of Laboratory Animals. He co-edited the ACLAM text on anesthesia and analgesia in laboratory animals and has been a member of the editorial board of the journal Comparative Medicine. Dr. White is a Diplomate of the American College of Laboratory Animal Medicine (ACLAM) and The European College of Laboratory Animal Medicine (ECLAM). He is Past President of the American College of Laboratory Animal Medicine. He is a member of the International Association of Colleges of Laboratory Animal Medicine in which he holds the office of President. He is a member of the International Air Transport Association (IATA) and serves on the Live Animals and Perishables Board as a member of its Animal Welfare team. He has played the lead role in the development of the new container standards for laboratory animals as well as in the development of the "Life Science Logistics for Laboratory Animals" chapter in the IATA Live Animals Regulations Manual.

Lynn Anderson, DVM is the Vice President of Animal Welfare and Comparative Medicine for Covance Laboratories, Inc. A graduate of Iowa State University's College of Veterinary Medicine, she has over 25 years of experience developing and directing animal care and

use programs, having served as the Attending Veterinarian and, ultimately, as the Institutional Official for Merck Research Laboratories. She also provided leadership for Charles River's global consulting and staffing business that provided technical and scientific personnel to academic, commercial and government research institutions. In addition to her clinical expertise, Dr. Anderson has extensive experience in animal facility design, personnel training and management and regulatory affairs. She is a Diplomate and Past President of the American College of Laboratory Animal Medicine and Past President of American Association for Laboratory Animal Science and the American Society of Laboratory Animal Practitioners. She is a former Chair of the American Board of Veterinary Specialties for the American Veterinary Medical Association. She also serves as a specialist consultant and Trustee for the Association for Assessment and Accreditation of Laboratory Animal Care, International, representing Americans for Medical Progress. In addition, Dr. Anderson served as the co-editor of Laboratory Animal Medicine, 2nd edition and a member of the editorial board for the Office of Laboratory Animal Welfare Institutional Animal Care and Use Committee Guidebook, 2nd edition.

Judith B. Franco, BS, LATG is Associate Director of Global Standardization and Business Resources for Comparative Medicine at Pfizer, Inc. In this position, she orchestrates the laboratory animal supply chain and supply chain partners to maximize contract return and ensure access to lab models, supplies and services for the Pfizer research community. Additionally, Judy manages the global supply chain for both nonhuman primate and canine resources, aligning supply and demand across research areas and lines within Pfizer. Judy also engages with external partners to promote the importance of biomedical research and ensure a positive climate for biomedical research. Judy received BS degrees in Biology and Environmental Sciences from the State University of New York at Plattsburgh in 1986. Since graduating, she has spent over 27 years in the pharmaceutical industry, beginning with Ciba Geigy at the Environmental Research Center in Farmington, CT, where she held multiple roles in agrichemical toxicology testing. She joined Bristol Meyers Squibb in 1995 as an intern with the Veterinary Services group, where she developed her skills in laboratory animal medicine. Judy began her Pfizer career in 1996, and for more than 18 years she has delivered against the Comparative Medicine departmental goals while working in the Veterinary Science and Technology, Site Operations, and Administration and Business Resources groups. Judy is a long standing member of American Association for Laboratory Animal Science and became a member of the Animal Transportation Association (ATA) in 2010. Judy currently serves as an ATA Board Member and as Chair of the ATA Laboratory Animal Transportation Committee.

Dianne Garnes, DVM is a native New Yorker who attended Hunter College in Manhattan, where she obtained a BA in Biology. She then attended the NYS College of Veterinary Medicine at Cornell University and received a DVM degree. She joined a small veterinary practice in Hyattsville, Maryland and worked there for almost two years. Then she left small animal practice to work as a clinical veterinarian in the laboratory animal facility at Georgetown University and was introduced to the world of research and academia. She is currently the Director of Animal Welfare Compliance and the Animal Welfare Officer for Novartis Pharmaceuticals Corporation in East Hanover, New Jersey. In this capacity, she is responsible for the enforcement of all government regulations and Novartis policies that apply to animal welfare, and the oversight of the committee that establishes policies and reviews and approves the humane care and use of animals in research and development at the site. She has worked for Novartis (Ciba-Geigy before the merger) for more than 20 years with varied responsibilities, including Director, Laboratory Animal Services (1995 - 2000) and Director, Safety Pharmacology (2000 - 2005). In the latter position she had the opportunity to establish a telemetry unit which performed GLP studies in validated animal models. Current and past professional affiliations include veterinary licensure in Washington, D.C. and Maryland; Member of the American Veterinary Medical Association; Board Member of the New Jersey Association for Biomedical Research.

Bruce W. Kennedy, MS, RLATG, CMAR, CPIA received his BS degree in zoology and MS degree in Avian Sciences at the University of California, Davis. His career is a mix of animals, chemistry, and people that started in California and included 19 years in Virginia and Maryland, as well as travel in 30 countries on five continents. Most of it has been as a research scientist type, conducting and managing studies with experimental animals in the disciplines of nutrition, physiology, and developmental biology. Bruce started in lab animal science using coturnix quail for his graduate thesis in nutritional toxicology. He has also worked at the bench (analytical chemistry) with dogs in protein metabolism and rats in carbohydrate nutrition studies (USDA), writing Good Laboratory Practice toxicology reports (Hazelton), and preparing experimental diets with test substances (FDA) and managing transgenic mouse colonies at the NIH and Caltech. Currently, he is a compliance associate at California State Polytechnic University, Pomona, administering both the lab animal and the human subjects research committees and assisting graduate students and PIs in their research efforts. Bruce has been a teacher and trainer for many years, lecturing on lab animals science and education research at Cal Poly Pomona and lab animal management at AALAS's Institute for Laboratory Animal Management. After receiving his Laboratory Animal Technologist certification, he was asked to inaugurate a lab animal training course for the USDA. He obtained the Certified Manager of Animal Resources Certification in 2006 and the Certified Professional IACUC Administrator certification in 2009. He is currently enrolled in a doctoral program in educational leadership. Bruce is past president of the Laboratory Animal Welfare Training Exchange and AALAS. He has served on the AALAS education and certification committees and sat on the Scientific Advisory Committee. He is a director of the California Society for Biomedical research. He is a recipient of the Bantin and Kingman Institute of Animal Technology award, the AALAS George R. Collins Award for training and educating in laboratory animal science, and the Purina lab animal tech award. Currently, he serves as an ad hoc specialist with the Association for Assessment and Accreditation of Laboratory Animal Care, International.

Robert C. Dysko, DVM has been a faculty member of ULAM and the University of Michigan since 1990. During those two plus decades, he has had many major responsibilities for the Unit, including oversight of all campus animal facility design and construction projects, director of the rodent health surveillance program, membership on the University's and the Ann Arbor Veterans Affairs' animal care and use committees, and director of the program for training graduate veterinarians in laboratory animal medicine and comparative medical research. In July 2012, he became the fourth Director in the 5-year history of the Unit for Laboratory Animal Medicine. He has been active in the American Association for Laboratory Animal Science, serving on its Executive Board from 2008 -2012, and in the role of President in 2011; the American College of Laboratory Animal Medicine, serving on its Board of Directors from 2000 - 2003; and the American Association of Veterinary Medical Colleges, beginning a 3-year term on their Board of Directors in 2013 as the at-large representative for the Department of Comparative Medicine.

Susan Brust Silk, MS is the Director of the Division of Policy and Education in the NIH Office of Laboratory Animal Welfare (OLAW) where she oversees the interpretation of Public Health Service Policy on Humane Care and Use of Laboratory Animals regarding the use of animals in research, testing and training at PHS-Assured institutions. She develops and directs educational programs in the ethical and humane care and use of laboratory animals including the OLAW Online webinar programs and the OLAW web resources. Before joining OLAW, Ms. Silk worked at the NIH National Cancer Institute (NCI), Office of the Director as the Senior Scientific Speechwriter and Special Communication Project Developer. She served the NCI Intramural Program as Senior Animal Policy Advisor and Director of the Office of Mice Advice. Ms. Silk has conducted research on murine plasmacytomagenesis at NIH NCI and the Karolinska Institute. She directed transgenic mouse core laboratories at both NIH and the Johns Hopkins University School of Medicine. Ms. Silk has an MS in Immunology/Genetics from the University of Maryland, a BFA in Design and Fine Art from the Maryland Institute, College of Art.

C. Ford Morishita is a retired science teacher of 33 years (2011), with 26 years served at Clackamas High School in Clackamas, Oregon. Assignments centered primarily on Biology, AP Biology, and Honors Biotechnology during his career. For the past two years, he has served as Science Specialist and Regional Science Coordinator at ESD 112 in Vancouver, Washington. Ford's work focused on professional development design and delivery, with respect to state and national initiatives. This work included the Next Generation Science Standards, Common Core State Standards, assessment and evaluation, and overseeing the science materials center which supported a K-8 science cooperative, composed of 29 school districts in SW WA. One area of responsibility was to address OSPI (Office of Superintendent of Public Instruction) regulations and practices related to laboratory animal dissection and proper handling and disposal of native and non-indigenous laboratory animals. This also included provision of alternatives to lab dissection practices in the classroom. Mr. Morishita has served on two consensus study committees for the National Research Council on Testing Teacher Candidates and Evaluation of the NBPTS (National Board for Professional Teaching Standards). He also completed a five year term as founding member of the Teacher Advisory Council for the National Research Council. During that time, Ford worked in an advisory role on other NRC projects such as formal input and review of Science, Medicine, and Animals: Teachers Guide, and Enhancing Professional Development for Teachers: Potential Uses of Information Technology. Moreover, Ford served on the NSRC (National Science Resource Center) national advisory board from 2003-2009 (currently known as Smithsonian Science Education Center). In 2008, Ford was one of only three classroom teachers, to be selected as National Associate by the National Academy of Science for his service and contributions. Mr. Morishita received his M.A.T. in Biological Sciences and B.S. in Biology from Lewis and Clark College. He was selected as the 1994 Presidential Award for Excellence in Science Teaching, and 1997 Oregon Teacher of the Year.

David M. Kurtz, DVM, PhD received his veterinary medical degree from the University of Tennessee in 1989. After 2 years as a small animal private practitioner, Dr. Kurtz entered the residency program in Laboratory Animal Medicine at the University of Alabama – Birmingham (UAB) in 1991. Upon completion of his residency, David Kurtz continued at UAB acquiring a PhD in Molecular and Cellular Pathology in 1998. Dr. Kurtz performed a post-doctoral fellowship at Washington University School of Medicine in St. Louis (WUSTL). His research focused on the regulation of metabolic gene expression by members of the nuclear hormone receptor superfamily of transcription factors. Dr. Kurtz also had an appointment in the Division of Comparative Medicine as a clinical laboratory animal veterinarian. He was promoted to research faculty in 2000 and was awarded research funding from the National Center for Research Resources (NCRR) under a Special Emphasis Research Career Award (SERCA – K01) and from the WUSTL Diabetes Research Training – Program Project. From 2003 to 2011, he served as the Attending Veterinarian at the U.S. Environmental Protection Agency National Health and Environmental Effects Research Laboratory in Research Triangle Park, North Carolina under a contract with Experimental Pathology Laboratories, Inc. Dr. Kurtz received Diplomate status in the American College of Laboratory Animal Medicine (ACLAM) in 2005. During that same period, Dr. Kurtz also served as the Attending Veterinarian for The Hamner Institutes of Health Sciences and Integrated Laboratory Systems, Inc. both located in Research Triangle Park, NC. Since 2011, Dr. Kurtz has served as a Staff Scientist in the Comparative Medicine Branch (CMB) of the National Institute of Environmental Health Sciences (NIEHS), one of 27 institutes within the National Institutes of Health. At NIEHS, his primary responsibilities include animal use protocol consultation and review, regulatory compliance, clinical laboratory animal medicine, and oversight of the animal health surveillance program. Beginning August 25, 2013, David Kurtz assumed the role of the Head, Quality Assurance Laboratory within CMB at NIEHS.

STAFF

Lida Anestidou, DVM, PhD is Senior Program Officer at the Institute for Laboratory Animal Research of the U.S. National Academy of Sciences and Director of the OIE Collaborating Center for Laboratory Animal Welfare and Science. Before joining the Academies she was a faculty member of the Center for Biomedical Ethics and Society, Vanderbilt University Medical Center in Nashville, Tennessee. Dr. Anestidou holds a Doctor of Veterinary Medicine (DVM) degree from Aristotle University in Greece (her home country), a Masters in Veterinary Sciences from the University of Florida, and a doctorate in Physiology working with Norman Weisbrodt at the University of Texas Graduate School of Biomedical Sciences at Houston. Dr. Anestidou is responsible for policy matters pertaining to the care and use of laboratory animals as well as a portfolio of international studies on responsible science, research with dual use potential, and education with academic partners from the Middle East, North Africa, South and Southeast Asia. Dr. Anestidou serves as an Independent Expert in the Ethics Evaluation of grant applications to the 7th Framework Program and Horizon 2020 Research and Innovation Program of the European Research Council and the European Commission. She is a member of the National Conference of Lawyers and Scientists, a joint committee of the AAAS and the American Bar Association.

Featured Speakers Biosketches

Bruce Clemmons is the Manager of the FedEx Live Animal Desk, which is responsible for approving and coordinating live animal shipments on FedEx scheduled services flights throughout the FedEx network. He has been a board member of the IATA (International Air Transport Association) Live Animals and Perishables Board since 1998 and has served as the Chair of the IATA Live Animals and Perishables Board since 2010. He is also on the Board of Directors of the Animal Transportation Association since 2005. Mr. Clemmons graduated from Illinois Wesleyan University in 1981 with a Bachelor of Arts degree in Political Science.

Gary Egrie is from Long Island, NY, where he received his Bachelor and Master's degrees from SUNY Stony Brook in 1990 and 1992, respectively. In the mid-1990s he worked in Ecuador (his mother is Ecuadorian) raising larval shrimp for sale to shrimp farms. In 2004 he graduated from the University of Pennsylvania School of Veterinary Medicine. From 2004 - 2005 he worked at Michigan State University providing veterinary services for the Michigan Department of Natural Resources' fish hatchery program. In 2005 he took a position with the USDA as a Veterinary Medical Officer in the Aquaculture Program, where he was involved with aquaculture-related programs, policies and regulations. In 2009, he took a newly created position of Farm Animal Welfare Coordinator, but still keeps involved with aquatic animal health as it relates to animal welfare and the World Organization for Animal Health (OIE). Gary used to have hobbies, but now he has three young children and just enjoys sleep when he can get it.

Robert Fernandez is the Vice President of Operations and Quality Assurance for Direct Services, Inc., a national logistics and transportation services company. He is a graduate of New York University, College of Business and Public Administration, where he received a BS in Accounting and Economics.

Gale Galland, DVM, MS, DACVPM graduated from the University of Georgia, College of Veterinary Medicine in 1986 and after working for two years in private practice and research, she joined the United States Public Health Service (USPHS), working for the Centers for Disease Control and Prevention. During her 21 years as a commissioned officer, she worked in a variety of positions, including staff veterinarian for the Division of Parasitic Diseases, attending veterinarian and then branch chief for the Laboratory Animal Medicine Branch and lastly, for the Division of Global Migration and Quarantine (DGMQ) Zoonoses Team, which is responsible for preventing the importation of animals and animal products that pose a threat to human health. During her work with DGMQ, Dr. Galland utilized her expertise with nonhuman primates and worked in the Nonhuman Primate Import Quarantine Program, overseeing their importation for science, education, or exhibition. Later, she became the DGMQ Zoonoses Team Lead. In January 2013, Captain Galland retired from the USPHS and currently works part time with DGMQ in the Nonhuman Primate Import Quarantine Program and part-time as a clinical veterinarian in private practice.

Carl B. Kole is a 40-year veteran of the aviation industry. His operational experience dates from 1968 to 1990. His work background as an airport agent to operations manager has provided him with a complete understanding of the operational issues facing the airport manager in today's environment. From 1990 - April 2008, Mr. Kole was the Administrator of Special Cargoes for United Airlines. In that role, Mr. Kole had the sole responsibility for determining, developing and implementing processes and procedures for both dangerous goods, pharma, live animal and perishable transport. Mr. Kole currently manages his own consulting firm (Kole Consulting) based in the Chicago area. Mr. Kole served as the Chairman of the IATA Live Animals / Perishable Board from 1994 to 2003, as Vice-Chair from 2003 - 2008, and participated as the vice-chair and board member since 1990. Mr. Kole was also a member of the IATA Live Animal / Perishable Board and had been in that role from 1994

to 2008. As the Chair, Mr. Kole contributed and facilitated the writing of Chapter 17 of the IATA Perishable Regulations (PHARMA) transport. The IATA regulations provide the worldwide aviation industry guidance and regulatory requirements on transport issues. His work with live animal transport and the harmonization of transport standards continues. This work was documented in the UFAW Handbook On The Care and Management of Laboratory and Other Research Animals. He continues to consult the IATA Live Animal / Perishable Board on an informal basis. Mr. Kole participates in various training and information presentation venues each year. Examples of previous trainings include those for the U.S. Department of Agriculture Animal Care Inspectors in conjunction with the Animal Plant Health Inspection Service (APHIS) Preceptor program and the ILAR International Workshop "Meeting the Challenges of a Global Environment." Mr. Kole is recognized throughout the industry as an expert in his areas of expertise, which include shipping perishable cargo and cool chain management. Recent commendations by the FAA, USDA, and AALAS attest to that expertise.

Kenneth Kobus, MBA is the Director of Logistics for Charles River Laboratories. Mr. Kobus has over 25 years of experience in Logistics Management across a broad range of industries, including life sciences. Prior to coming to Charles River, Mr. Kobus was the Director of Logistics for a global medical device company and previously, for a global biotechnology company. He earned a Bachelor's Degree in Logistics and Transportation Management and an MBA in Finance and Logistics from Northeastern University. He has obtained graduate certificates from Harvard University Extension School (Management), The Ohio State University (Logistics), and The BioPharma Institute (Regulatory Affairs). Mr. Kobus is also a member of the faculty for The University of Phoenix Online Campus, Graduate School of Business and Management, The John G. Sperling School of Business. Mr. Kobus is a member of several professional organizations, including APICS, ATA, AALAS, AST&L, CSCMP, and PMI.

Daniel A. Kovich, DVM, MPH is the Program Manager of the Office of Animal Care and Health Policy at the Department of Agriculture and Consumer Services. Dr. Kovich has primary responsibility for managing Virginia's various animal welfare programs, including animal pound and shelter inspections, the Animal Record Summary Database, the Dangerous Dog Registry, animal control officer training standards, and provision of veterinary technical services to local governments. Dr. Kovich also has responsibility for regulations promulgated by the Department pertaining to animal health and welfare. Prior to joining VDACS, Dr. Kovich served as a Supervisory Public Health Veterinarian for the USDA in Milwaukee, WI. He received his DVM and MPH degrees from the University of Minnesota, and a Bachelor of Science in Animal Science from Iowa State University.

David Lains has been the aquaculturist and sales manager for the Zebrafish International Resource Center (ZIRC) at the University of Oregon since its inception in 2001. He obtained a bachelor's degree in Environmental Science/Zoology at The Evergreen State College, focusing on his life-long passion for aquatic environments and their inhabitants. He has an extensive background in aquatics and frequently consults on large and small-scale fish operations in both academic and commercial settings. In addition, David has a thorough knowledge of fish health and husbandry, and he routinely assists hobbyists, educators and researchers worldwide with their questions and concerns. He builds and operates the aquatic life support systems at ZIRC as well as his own personal fish projects, which are primarily focused on heirloom Japanese goldfish.

Romelito Lapitan, PhD is a Program Manager at the Ag/Bio-Terror Countermeasures (ABTC) Division within the Agriculture Programs and Trade Liaison (APTL) Office, Office of Field Operations, United States Customs and Border Protection (CBP), Department of Homeland Security (DHS). He also served as Acting Branch Chief at ABTC and Ag/Bio subject matter expert to DHS biothreat analysis and countermeasures, operations visualization, and CBP CBRNE programs. His current initiatives include developing tools, guidance, and

methodologies for interdicting Ag/Bio-terrorism resources, handling and processing illicit trade of biologics at US points of entry (POE). Before joining APTL in 2011, he served as an Agriculture Specialist and later, in a supervisory role, at the Otay Mesa Commercial POE in San Diego, CA, where he enforced USDA regulations on all agricultural imports entering the US from Mexico. He was also instrumental in improving the CBP application software ACE/M1) for processing US trade imports in sea and rail environments. He holds a postgraduate degree in environmental biophysics and, prior to joining CBP in 2008, was affiliated with Colorado State University doing research with a focus on groundwater quality and atmospheric loading of greenhouse gases.

Steven L. Leary, DVM, DACLAM is the Assistant Vice Chancellor for Veterinary Affairs at Washington University in St. Louis, Missouri. Dr. Leary earned his DVM from Iowa State University and was a USPHS Postdoctoral Fellow in Laboratory Animal Medicine and Comparative Pathology at Johns Hopkins University. He is a past recipient of the AVMA Charles River Prize, the AALAS Griffin Award, and the ISU Stange Award. Dr. Leary has served as a member of the AAALAC Council, president of ACLAM, chair of the AVMA Animal Welfare Committee, AVMA Panels on Euthanasia and Human Slaughter and the NABR Board. HE lobbied for passage of the Animal Enterprise Protection Act of 1992 and has testified before the House Agriculture Subcommittee.

Kirk Leech is the Executive Director of the European Animal Research Association (EARA). EARA is a communications and advocacy organization seeking to uphold the interests of biomedical research across Europe. The creation of EARA was prompted by the need (expressed by the research community) to better inform the European public on the continued need for, and benefit of, the human use of animals in biomedical research. Representing both public and private research organizations, the association facilitates collaboration between networks across the European scientific community in order to coordinate national efforts and provide accurate and reliable information to the public and decision-makers regarding the importance of animal research. In doing so, EARA aims to improve understanding and encourage openness in animal research. Previously Kirk worked in government affairs for the Association of the British Pharmaceutical Industry (ABPI). Prior to that, Kirk worked for Understanding Animal Research (UAR), the UK's leading advocacy group on the use of animals in medical research. Before working with UAR, Kirk acted as a consultant for the White House Writers Group (WHWG), a strategic communications consultancy based in Washington DC and founded by a group of former US Presidential speechwriters. Kirk was engaged to advise clients on improving public opinion on the environmental, economic and cultural impact of a new billion-dollar gold mine in Transylvania, Romania. Before this position, Kirk advised Action Research in Community Health and Development (ARCH), a tribal rights organization working in the eastern tribal areas on Gujarat, India on influencing public opinion on the economic benefits of the Narmada Dam and in opposing the imposition of wildlife sanctuaries on tribal land. Kirk is a regular writer and presenter to UK and European media with over 200 articles and appearances on television and radio.

Sharon Lynn is a senior wildlife inspector with the headquarters office of the U.S. Fish and Wildlife Service Office of Law Enforcement, where her work includes policy development and programmatic support to implementing laws that regulate the import and export of live wildlife and wildlife products from a conservation perspective. Before taking this position, she served as a wildlife inspector at the port of Chicago from 1992 through the end of 2007. Her work there included ensuring that live wildlife imports (including those being imported for research use) complied with conservation laws and humane transport requirements.

Gregg Pittelkow received his Bachelors in Business Administration from the College of St. Thomas, St. Paul, Minnesota (1985). In 1982, Mr. Pittelkow began his long career in the airline industry, serving in a variety of positions in both Passenger Marketing and Cargo Operations at Republic Airlines, Northwest Airlines, and Delta Airlines. In 1994, he was given the opportunity to

head up Northwest Airlines' fledgling passenger and cargo live animal programs. The changes he made to these programs greatly enhanced animal welfare, decreased citations and fines by more than 95%, and consecutively increased program revenues by over 10% annually. In conjunction with his duties at Northwest, in 1994 Mr. Pittelkow was elected to the International Air Transport Association Live Animals and Perishables Board, a position he served in until his retirement from Delta Airlines in 2010. While on the Board, Mr. Pittelkow initiated or oversaw a number of enhancements to the regulations, including approval to use standard plastic pet containers for species other than dogs and cats and creation of the airline industry's first standards for the acceptance and handling of time and temperature-sensitive healthcare products. In recognition of his long service to the animal transportation industry, in 2009 Mr. Pittelkow was awarded the Animal Transportation Association International Award for outstanding contributions to the welfare of animals in international commerce. Since 2010, Mr. Pittelkow has remained active in animal transportation, serving as a consultant to airlines, government departments and agencies, and NGOs. In 2013, he joined Covance, Inc. where today he leads their global logistics team for research models.

Kathleen R. Pritchett-Corning, DVM, DAACLAM, MCRVS received her BS and her DVM from Washington State University and completed her post-doctoral training in laboratory animal medicine at the University of Washington. She became a diplomate of the American College of Laboratory Animal Medicine in 2002. Kate was the Director of Research and Professional Services at Charles River Laboratories until 2013 and she is currently employed at Harvard University Faculty of Arts and Sciences as a Senior Clinical Veterinarian. She is also an Affiliate Asst. Professor in the Department of Comparative Medicine at the University of Washington.

Robert Quest obtained his degree at Cardiff University. He then did a spell teaching biology in Uganda before returning to the UK. For the past 29 years he has been an enforcement officer for the City of London Corporation, which involves ensuring compliance on the import and transit of animals at the Border Inspection Post at Heathrow Airport, which he manages. He is a member of the UK National Animal Health and Welfare Panel and chairs the regional branch, as well as sitting on various other relevant working groups. Rob is also employed as a government Wildlife Inspector (part-time) for the Animal Health and Veterinary Laboratories Agency. His other specialty is the CITES regulations and identification of CITES species for UK Police and Customs. Mr. Quest has broad experience as a tutor, both in the UK and abroad.

Joe Simmons, DVM, PhD, DAACLAM pursued residency training in comparative medicine and a PhD in Veterinary Pathobiology, studying novel virus infections of laboratory animals at the University of Missouri-Columbia after completing veterinary school. He has served as a faculty member at the University of Missouri-Columbia, as a Research Veterinarian at a major pharmaceutical company, and as Director of Research Animal Diagnostic Services for Charles River Laboratories. In 2009, he joined Charles River Research Models Houston as General Manager, where he was responsible for import and supply of nonhuman primates for Charles River's internal and external customers. He is currently an Executive Consultant for Insight Diagnostics and Consulting. His primary areas of interest and responsibility include infectious diseases of nonhuman primates and nonhuman primate transportation, biosecurity and welfare.

Andy Smith, MBA is the Vice President at Marshall BioResources, a breeder of laboratory canines, ferrets and minipigs with facilities in the United States, Europe and Asia. He obtained his bachelor's degree in biology from the State University of New York at Geneseo and went on to get a Master's Degree in Business Administration from the University of Rochester. Mr. Smith has been with Marshall for more than 20 years, working through various positions leading to his current overall responsibility for North American and Asian Operations. As part of his role, he oversees all animal transportation-related activities. Mr. Smith is a long-standing member of the national AALAS organization and is the Past President of the Upstate New York branch.



Roundtable on Science and Welfare in Laboratory Animal Use

The Institute for Laboratory Animal Research has formed the **Roundtable on Science and Welfare in Laboratory Animal Use**. The Roundtable will foster communication and problem-solving among representatives of the many constituencies with strong interests in the use of laboratory animals in research and testing: government agencies, pharmaceutical and consumer product corporations, vendors, animal advocacy groups, professional societies, and academic institutions, including scientists and veterinarians.

The Roundtable is **a balanced and civil forum** to stimulate dialogue and collaboration, to help build trust and transparency among stakeholders, and to provide a new medium to promote the responsible use of animals in science. Roundtable meetings will combine a public workshop devoted to a laboratory animal science and welfare topic and a Roundtable members' planning meeting. Three meetings will be held each year.

These free workshops are webcast.

Non-member organizations are invited to the workshops, which are free and open to the public. Recorded presentations will be available on the Roundtable's website after each workshop.

Topics of Interest include:

- Transportation of laboratory animals, a critical international policy issue - workshop is being held on September 3-4, 2014
- The value of animal models and their appropriate application
- Improvement of data sharing, along with negative results and failed models
- Design, implementation, monitoring and sharing of performance standards with regulatory and accreditation support
- Navigating increased regulatory complexities
- Understanding IACUC responsibilities
- Reproducibility issues in research with animals/animal models - workshop was held on June 4-5, 2014

The Roundtable structure generates immediate benefits: Members and audience apply the insights and lessons learned from the workshops within their home institutions or research activities. They also share new approaches with colleagues in other institutions. Workshop attendees from other organizations participate in seeding concepts and ideas among their membership and the public.

For more information, contact:

Lida Anestidou, DVM, PhD
500 5th Street NW, Washington DC 20001
202-334-2595
lanestidou@nas.edu / dels.nas.edu/ilar