

Future Topical Updates to
the “Guide for the Care and
Use of Laboratory
Animals”- A Workshop
Meeting Book
April 23-24, 2024

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Future Topical Updates to the “Guide for the Care and Use of Laboratory Animals”- A Workshop

April 23-24, 2024

Agenda



Agenda Day 1: Tuesday, April 23, 2024, 9am-5pm ET

8:30am-9am ET	Workshop sign in
9:00am-9:15am ET	Welcome and Introductions <ul style="list-style-type: none">•Susana Rodriguez, Program Officer, National Academies•Jeffrey Everitt, DVM, Committee Co-Chair•Jennie Lofgren, DVM, Committee Co-Chair
9:15am-9:25am ET	BAHSCR Overview <ul style="list-style-type: none">•Robert C. Dysko, DVM, DACLAM
9:25am-9:55am ET	Perspectives on the 8th edition <i>Guide</i> process <ul style="list-style-type: none">•Janet Garber, DVM, PhD
9:55am-10:15am ET	Standing Committee for the Care and Use of Animals-Overview <ul style="list-style-type: none">•James G. Fox, DVM, Massachusetts Institute of Technology
10:15am-10:25am ET	Break
10:25am-11:25am ET	Listening Sessions-Overview <ul style="list-style-type: none">•Susan Harper, DVM, National Institutes of Health•Robert Sikes, PhD, University of Arkansas at Little Rock
11:25am-11:55am ET	Overview of VCRACW Survey

Kate Storves, DVM/DACLAM, Intuitive Surgical

11:55am–12:05pm ET

Summary of Morning Overview Sessions

Jennie. Lofgren, Committee Co-Chair

12:05am–12:35am ET

Lunch

12:35pm–1:45pm ET

Session 1: Challenges of Using the Guide for Regulatory Purpose

- 12:35-12:40pm:
Introduction: Kelly Decker, FDA
- 12:40-12:55pm:
Michael Huerkamp, DVM/DACLAM, Emory University
- 12:55-01:10pm:
Axel Wolff, DVM, NIH OLAW
- 01:10-1:25pm:
Louis DiVincenti, DVM/MS/DACLAM/DACAW, USDA APHIS
- 1:25-1:40pm:
Taylor Bennett, DVM/PhD/DACLAM/DACAW, NABR
- 1:40-1:45pm:
Moderator: Sherrie Jean, Centers for Disease Control and Prevention

01:45am–02:00pm ET

Break

2:00pm–3:25pm ET

Session 2: Use of the Guide

- 2:00-2:05pm:
Introduction: Katherine Thibault, Battelle, National Ecological Observatory Network
- 2:05-2:20pm:
Stacy Pritt, DVM/ CPIA/CHRC/DACAW, Texas A&M University System
- 2:20-2:35pm:
Joe Kornegay, DVM/PhD/ DACVIM, Chair, Board of Directors, AAALAC International
- 2:35-2:50pm:
Philippe Baneux, DVM, Diplomate ECLAM, Consultant
- 2:50-3:05pm:
Monika Burns, DVM, DACLAM, Novartis
- 3:05-3:20pm:
Debra L. Hickman, DVM/DACLAM/DACAW, AAALAC International
- 3:20-3:25pm:
Moderator: Laurie Brignolo, University of California Davis

03:25pm–03:35pm ET

Break

3:35pm–4:45pm ET

Session 3: Performance and Engineering Standards

- 3:35-3:40pm:
Introduction: Jeffrey Everitt, Duke University School of Medicine
- 3:40-3:55pm:
Paul Meechan, PhD, Biorisk Consultant
- 3:55-4:10pm:
Mark Churchland, PhD, Columbia University

- 4:10-4:25pm:
Kate Pritchett-Corning, DVM, Harvard University
- 4:25-4:40pm:
Steve Niemi, DVM, Boston University
- 4:40-4:45pm:
Moderator: Elaine Kim, KBR Wyle Services, LLC

4:45am–5:00pm ET

Day 1 Workshop Wrap Up

- Jeffrey Everitt, DVM, Committee Co-Chair
- Jennie Lofgren, DVM, Committee Co-Chair

5pm ET

END of DAY 1**Agenda Day 2: Wednesday, April 24, 2024, 9am-5pm ET**

8:30am–9am ET

Workshop sign in

9:00am–10:30am ET

Session 4: Key Topics in Housing and Husbandry

- 9:00-9:05am:
Introduction: Susan Harper, National Institutes of Health
- 9:05-9:25am
Brianna Gaskill, PhD, Novartis Institutes for Biomedical Research
- 9:25-9:45am:
Mollie Bloomsmith, PhD, Emory University
- 9:45-10:05am:
Mary Ann Vasbinder, DVM, DACLAM, GSK
- 10:05-10:25am:
Raphael Malbrue, DVM, University of Virginia
- 10:25-10:30am:
Moderator: James G. Fox, MIT

10:30am–10:40pm ET

Break

10:40am–11:40am T

Session 5: Global Implications of the Guide

- 10:40-10:45am:
Introduction: James G. Fox, MIT
- 10:45-11:10am:
Patricia V. Turner MS/DVM/DVSc/DACLAM/DABT/ DECAWBM (AWSEL), University of Guelph
- 11:10-11:35am:
Gary Borkowski, DVM/DACLAM, AAALAC International
- 11:35-11:40am:
Moderator: Jennie Lofgren, Novartis

11:40am–12:10pm ET

Lunch

12:10pm–01:20pm EST**Session 6: Emerging Issues for the Guide**

- 12:10-12:15pm:
Introduction: Douglas L. Brining, University of Texas Medical Branch, Galveston
- 12:15-12:30pm:
Laura Conour, DVM/ACLAM, Princeton University
- 12:30-12:45pm:
Sally Thompson-Iritani, DVM/PhD/CPIA/CCFP, University of Washington
- 12:45-1:00pm:
*Patrick Lester, DVM/MS/DACLAM, University of Michigan and
Tara Martin, DVM/DACLAM, University of Michigan*
- 1:00-1:15pm:
Kristen Weishaar, DVM/MS/Diplomate ACVIM (Oncology), Colorado State University
- 1:15-1:20pm:
Moderator: Elaine Kim, KBR Wyle Services, LLC

01:20pm–03:30pm ET**Session 7: Format of the Guide**

- 1:20-1:25pm:
Introduction: Robert S. Sikes, University of Arkansas at Little Rock
- 1:25-1:45pm:
Cia Johnson, DVM, AVMA
- 1:45-2:05pm:
Cassandra Tucker, PhD, University of California – Davis
- 2:05-2:25pm:
Zoltan Varga, PhD, Zebrafish International Resource Center (ZIRC) at University of Oregon
- 2:25-2:45pm:
Jori Leszczynski, DVM/DACLAM, University of Colorado Anschutz Medical Campus
- 2:45-3:05pm:
Paul Stapp, PhD, California State University Fullerton
- 3:05-3:25pm:
*Aubrey Schoenleben, PhD, University of Washington and
Sally Thompson-Iritani, DVM/PhD/CPIA/CCFP, University of Washington*
- 3:25-3:30pm:
Moderator: Laurie Brignolo, University of California Davis

03:30pm–03:35pm ET**Break****03:35pm–04:45pm ET****Session 8: Managing Programs of the Future**

- 3:35-3:40pm:
Introduction: James G. Fox, MIT
- 3:40-3:55pm:
Neil Lipman, VMD, Memorial Sloan Kettering Cancer Center
- 3:55-4:10pm:
Thomas C. Smith, 3Flow
- 4:10-4:25pm:
Kishor Khankari, PhD, AnSight LLC
- 4:25-4:40pm:
Szczepan Baran, VMD/MS, VeriSIM Life
- 4:40-4:45pm:
Moderator: Jeffrey Everitt, Duke University School of Medicine

04:45pm–05:00pm ET**Day 2 Workshop Wrap Up**

- Jeffrey Everitt, DVM, Committee Co-Chair
- Jennie Lofgren, DVM, Committee Co-Chair

5pm ET

END of DAY 2

DEI Statement

The National Academies of Sciences, Engineering, and Medicine (the National Academies) value diversity in our staff, members, and volunteers; strive to foster a culture of inclusion and belonging; and aim to conduct our work through a diversity, equity, inclusion (DEI) and anti-racism lens. We define diversity as the broad spectrum of experiences, cultures, and physical attributes within a community, including, but not limited to, race or ancestry, national origin, religion, age, ability, gender, gender identity or expression, sexual identity, socioeconomic status, and perspective. We define equity as the absence of barriers, biases, and obstacles that impede equal access, fair treatment, and opportunity for contribution by all members of a community. Lastly, we define inclusion as a culture comprising a framework that allows an individual to effectively engage and thrive in a community.² The values of DEI need to be at the center of our programs, institutional policies and practices, and products. Applying a DEI lens in all that we do strengthens our ability to advise the nation in matters of science, engineering, and medicine in ways that lead to greater impact and innovation. The full statement is available [online](#).

Anti-Harassment Policy

The National Academies of Sciences, Engineering, and Medicine (NASEM) are committed to the principles of diversity, inclusion, integrity, civility, and respect in all of our activities. We look to you to be a partner in this commitment by helping us to maintain a professional and cordial environment. All forms of discrimination, harassment, and bullying are prohibited in any NASEM activity. This policy applies to all participants in all settings and locations in which NASEM work and activities are conducted, including committee meetings, workshops, conferences, and other work and social functions where employees, volunteers, sponsors, vendors, or guests are present. The full policy is available [online](#).

STATEMENT OF TASK

A workshop planning committee will be convened by the National Academies to explore topics of interest related to potential, future updates to the Guide for the Care and Use of Laboratory Animals (the Guide, 8th edition, NRC 2011). The workshop will build upon listening sessions that the Standing Committee for the Care and Use of Animals in Research (Standing Committee) held during the past year as it has explored various themes to inform future updates or revisions to the Guide. The workshop will serve as an event to share information and gather knowledge on topics including, but not limited to:

- Role of regulatory agency policies and their impact on the Guide.
- Possible new dissemination formats and content management of the Guide that would have the potential to provide increased usability and accessibility of information to the animal research and welfare communities.
- The use of terminology in the Guide.
- Topics related to institutional animal care and use committees (IACUCs), such as challenges of using the Guide by IACUCs with perspectives from large and small institutions.
- The role and responsibilities of IACUCs in ethical decisions, scientific merit review, harm-benefit analysis, rigor and reproducibility.
- Topics related to housing, international housing regulations, and their impacts on animal behavior and welfare.
- Relevant guidelines (e.g., AVMA Guidelines for Euthanasia, Taxon-specific Guides, Biosafety in Microbiological and Biomedical Laboratories (BMBL), Guide for the Care and Use of Agricultural Animals in Research and Training (the Ag Guide), ARRIVE Guidelines) that could be included in the Guide to support recommendations.
- Other topics of potential relevance to future Guide updates raised by the planning committee or workshop participants.

The planning committee will plan and organize the workshop, select, and invite speakers and moderate the discussions. The presentations and discussions from the workshop will be summarized by a rapporteur-prepared Proceedings-in-Brief in accordance with institutional guidelines.

NATIONAL ACADEMIES' STAFF

Robin Schoen, Co-Director
Kavita Berger, Co-Director
Nia Johnson, Senior Program Officer
Susana Rodriguez, Program Officer
Jessica De Mouy, Research Assistant
Mariah Waul, Program Assistant
Jeanne Aquilino, Financial Business Partner

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COMMITTEE MEMBER BIOGRAPHIES

Jeffrey Everitt (Co-Chair) is a Professor (Emeritus) of Pathology in the Department of Pathology in the Duke University School of Medicine. He also serves as a self-employed consultant in toxicologic and research pathology (Vision of Virchow Consulting, LLC). Previously he was employed as a Professor of Pathology at Duke University, Director of Worldwide Comparative Medicine at GlaxoSmithKline Pharmaceutical R&D, and as a Senior Scientist at CIIT Centers for Health Research in Research Triangle Park, NC. His research interests and expertise include toxicologic pathology, animal model characterization and use, and the care, welfare and use of research animals. He is a Diplomate of the American College of Veterinary Pathologists and of the American College of Laboratory Animal Medicine where he served on the Board of Directors, as well as a Fellow of the International Academy of Toxicologic Pathologists. He attained a DVM degree at Cornell University, completed a residency in anatomic pathology at the University of Pennsylvania, and then completed a post-doctoral position at the University of Illinois in Champaign-Urbana. Dr. Everitt served on ILAR Council from 2004-2010, led an ILAR committee report in 2011, and coordinated animal workshop reviews in 2017 and 2018.

Jennifer Lofgren (Co-Chair) is the Global Head of Animal Welfare Compliance at Novartis Pharmaceuticals, where she leads a global team in providing ethical and compliance oversight to all Novartis sponsored animal studies, as well as advancing the 3Rs. Prior to this she was an Associate Attending Veterinarian at the University of Michigan Medical School where she co-founded the Refinement and Enrichment Advancements Laboratory. Jennifer completed a research fellowship with the Pain and Animal Welfare Sciences group at Newcastle University. Jennifer became an ACLAM Diplomate following completion of a post-doctoral training program at the MIT and earning her DVM and MS degrees from Tufts University. Jennifer is the chair of the Institutional Official's Consortium, the co-chair for the IACUC Conference Planning Committee with Public Responsibility in Medicine and Research, and board member for Americans for Medical Progress. Jennifer is a past Board of Directors member of the American College of Laboratory Animal Medicine and recently co-edited the 3rd edition of Anesthesia and Analgesia in Laboratory Animals, co-authoring the chapter on Anesthesia and Analgesia in Laboratory Rodents. Jennifer has authored 27 peer reviewed articles and book chapters and was honored with the 2021 Outstanding Alumni Award from Tufts University School of Veterinary Medicine.

Laurie Brignolo is the Associate Vice Chancellor of the UC Davis Research and Teaching animal care program. In this role, she leads a well-constructed, coordinated effort to harmonize the decentralized animal care program. She serves as the Attending Veterinarian for the extremely diverse animal care program. This program which averages 1400 active animal care and use protocols covers the use of nearly 5 million animals and is one of the largest in the United States. The UC Davis animal care program includes over 300 separate buildings and nearly 1 million square feet of vivarium, outdoor caging and pasture space. She serves on the Board of Directors of both the California Biomedical Research Association and the National Biomedical Research Association. She has been a part of AAALAC since 2014 and has been on council since 2021. She is an ACLAM diplomate and received the ACLAM mentor award in 2021. Dr. Brignolo completed her veterinary degree at the University of Wisconsin, Madison in 1993 and her Laboratory Animal Medicine Residency program at UC Davis in 1996. She is active in several laboratory animal organizations including the Association of Primate Veterinarians, American Association of Laboratory Animal Practitioners and both local and national AALAS.

James G. Fox is a professor post tenure in the Department of Biological Engineering and the founding director of the Division of Comparative Medicine at the Massachusetts Institute of Technology. He is also an Adjunct Professor at Tufts University School of Veterinary Medicine. Dr. Fox is considered an international authority on the epidemiology and pathogenesis of gastric and enterohepatic *Helicobacters* in humans and animals. His laboratory developed the ferret as a model for both *Campylobacter* and *Helicobacter* associated disease as well as the first rodent model to study *Helicobacter* associated gastric disease including gastric cancer. Dr. Fox has received numerous scientific awards and was elected to the National Academy of Medicine in 2004. He has been the principal investigator of an NIH postdoctoral training grant for veterinarians for 30 years and has trained 80 veterinarians, physicians, and PhDs for careers in biomedical research. Dr. Fox received his MS from Stanford University and his DVM from the Colorado State University School of Veterinary Medicine. Dr. Fox served on ILAR Council from 2005-2011 and currently co-chairs the Standing Committee for the Care and Use of Animals in Research.

Dr. Michael E. Goldberg is the David Mahoney Professor of Brain and Behavior in the Departments of Neuroscience, Neurology, Psychiatry, and Ophthalmology at the Columbia University College of Physicians and Surgeons. He moved to Columbia University in 2001. In his research, he uses vision and eye movements to explore the physiology of cognitive processes such as visual attention and spatial perception. More recently he has begun to study the physiology of cognitive, non-motor processes in the cerebellum and the role of oculomotor proprioception in the generation of long-term visuospatial attention. He still practices clinical neurology as a neurohospitalist at the Columbia University Medical Center. He is a past president of the Society for Neuroscience, an elected member of the National Academy of Sciences of the United States, and an elected fellow of the American Academy of Arts and Sciences and the American Association for the Advancement of Science. He graduated from Harvard College in Biochemical Sciences (1963), and Harvard Medical School (1968), and did a residency in neurology at the Harvard Longwood Program (1972-1975). He was Dr. Robert Wurtz's first postdoctoral fellow (1969-1972), and a founding member of the Laboratory of Sensorimotor Research.

Dr. Susan Harper currently serves as the Deputy Director for the NIH Office of Animal Care and Use. She has consulted, lectured, and published on various topics related to agricultural animal health and welfare; aquaculture; emergency response and contingency planning; biocontainment and biosecurity relevant to animal program operations; research safety; and occupational health. Dr. Harper is an active member of numerous professional veterinary and safety organizations, maintains status as a diplomate in the American College of Laboratory Animal Medicine (ACLAM) and the American College of Veterinary Preventative Medicine (ACVPM); is a Registered Biosafety Professional (RBP) through the American Biological Safety Association (ABSA); and serves on AAALAC International Council. She earned a BS in Agriculture from West Virginia University and DVM from Louisiana State University, prior to starting her professional career in large animal practice. After several years in clinical medicine, she enrolled in a post-doctoral residency and masters program in comparative medicine at the Penn State University College of Medicine. She served as Penn State faculty for 2 years before transitioning to a federal career that includes service at several different Departments and Agencies.

Dr. Sherrie Jean is Deputy Branch Chief for the Comparative Medicine Branch in the Division of Core Laboratory Services and Response at the Centers for Disease Control and Prevention (CDC) in Atlanta, GA. She also serves as a contract/relief veterinarian with PetIQ and the DeKalb County Animal Shelter. Prior to joining the CDC, Dr. Jean worked as a Clinical Veterinarian at University of Southern California and Emory National Primate Research Center. Dr. Jean is a boarded diplomate of the American College of Laboratory Animal Medicine (ACLAM) and has 17 years of experience supporting infectious disease models including experience working in high containment. Dr. Jean is the 2023-2024 President for the Association of Primate Veterinarians (APV). Dr. Jean's other professional activities include being an AAALAC Ad Hoc Specialist and an AVMA Council on Education Site Visitor. Dr. Jean received her bachelor of science (2003) and doctorate of veterinary medicine (2007) from Louisiana State University. She completed a residency in laboratory animal

and primate medicine through the Emory University School of Medicine and Emory National Primate Research Center (ENPRC).

Elaine Kim is a Senior Technical Professional for KBR Wyle Services LLC, providing IACUC administrative support to the Chief Veterinary Officer at NASA. She organizes and collaborates on animal care and use policy and education. Her previous work experience in IACUC administration was at a land grant university with a veterinary school where the breadth of research spanned from traditional rodent biomedical research, emerging infectious diseases in atypical species (with biocontainment), food/fiber research and teaching, to veterinary teaching, translational research of veterinary clinical studies, FDA-regulated studies, and wildlife research, teaching, and management activities. She served on NASEM planning committee for the workshop on Animal Welfare Challenges in Research and Education on Wildlife, Non-Model Animal Species and Biodiversity. Currently, she is a steering committee member on the Federal Demonstration Partnership (FDP) Compliance Unit Standard Procedures (CUSP). Elaine earned her Bachelors of Science degree in Bioresource Sciences at the University of California, Berkeley, and is also a Certified Professional in IACUC Administration (CPIA).

Richard Nakamura, Ph.D. was the Director of the Center for Scientific Review (CSR) at the National Institutes of Health (NIH) from 2011 to his retirement from Federal service in April 2018. He led CSR's 500 scientists and administrative staff, overseeing their efforts to manage 80,000 incoming NIH grant applications a year. Before 2011, Dr. Nakamura had a 32-year tenure at the National Institute of Mental Health (NIMH), where he served as both Scientific Director and Deputy Director of the institute. His scientific research area was cognitive neuroscience of non-human primates. He was Acting Director of NIMH from 2001 to 2002. His awards included the Presidential Rank Award for outstanding leadership. Dr. Nakamura currently serves as a volunteer in the following: AAALAC International Board of Directors; Society for Neuroscience Committee on Animals in Research, NAS Institute for Laboratory Animal Research Standing Committee, American Institute for Biological Sciences Board of Directors and NIMH. Dr. Nakamura earned his B.A. in psychology from Earlham College and received his Ph.D. in psychology from SUNY Stony Brook. Dr. Nakamura has expertise in several areas, including the grant award and policy process at NIH, cognitive and comparative neuroscience, and ethics in science.

Robert S. Sikes, Ph.D. is professor emeritus in the Department of Biology at the University of Arkansas at Little Rock. His research has been conducted exclusively on wild vertebrates and has focused primarily on topics in behavioral and evolutionary ecology. Dr. Sikes served as chair of his institution's animal care and use committee and as director of the animal care facility. Dr. Sikes is Past President of the American Society of Mammalogists (ASM) and currently serves as the ASM co-chair of the Animal Care and Use Committee. He has been lead author of the last two revisions of the ASM's Guidelines for the Use of Wild Mammals in Research and Education. Dr. Sikes is a regular author and speaker on topics concerning the use and oversight of wild animals in research. Dr. Sikes served in 2023 as a Fulbright Specialist on oversight of research activities involving wildlife in Colombia and currently serves as a member of AAALAC International Council on Accreditation. He received his doctorate in Zoology from the University of Minnesota in 1994. He served as a member of the ILAR Council and currently serves on the NASEM Standing Committee for the Care and Use of Animals in Research.

STAFF BIOGRAPHIES

Kavita Berger, Ph.D. is the Board Director of the Board on Life Science and Co-Director of the Board on Animal Health Sciences, Conservation, and Research of the National Academies of Sciences, Engineering, and Medicine. She is a life scientist with extensive experience in biological science and security policy. Throughout her career, she has worked on problems at the intersection of health, science, national security, and policy. Dr. Berger was previously a Principal Scientist at Gryphon Scientific, and led several projects involving the analysis of biosecurity and biodefense policy and risk and benefits of life science research and technologies. Recently, Dr. Berger led system-based analyses of the entire U.S. biosecurity and biodefense policy landscape and of dual use capabilities of scientists. She also has led a comparative analysis of genome editing technologies, examination of biosecurity considerations associated with high-consequence pathogens and enabling biotechnologies, and development of scenario-based training exercises on laboratory biosecurity and biosafety concepts in the Middle East and North Africa. Dr. Berger was responsible for several biosecurity and biodefense initiatives at the American Association for the Advancement of Science (AAAS). At AAAS, she developed activities that engaged Washington-DC-based science policy and security experts on topics ranging from health security to biological weapons. These efforts provided opportunities for scientists to bring their knowledge and experience to current security policy dialogues and for the security policy community to better understand the broader implications of science and technology. Dr. Berger's interest in looking between the lines of policy and practice led her to initiate two significant activities at AAAS, both of which have influenced her work at Gryphon Scientific. One activity was to promote dialogue between the Federal Bureau of Investigation and university officials to enhance their familiarity with each other, find common ground, and promote trust-building. For the FBI, she led a project involving evaluation of national and transnational security implications of big data in the life sciences. The second activity was to engage scientists across the Middle East, North Africa, and South Asia to work together to prevent biosecurity threats. Dr. Berger has served on a National Research Council committee on U.S. – Russia bilateral engagement in the biological sciences and biotechnology. Dr. Berger has a Ph.D. in genetics and molecular biology from Emory University and conducted pre-clinical research on HIV and smallpox vaccines.

Robin Schoen is the Director of the Board on Agriculture and Natural Resources (BANR) of the congressionally chartered, not-for-profit National Academies of Science, Engineering, and Medicine. BANR is the program unit of the Academies responsible for bringing scientific experts together around issues related to food and agricultural production, forestry, wildlife, and the use of land, water, and other natural resources, in response to requests from Congress and the federal agencies, states, and the private sector. BANR's recent work is diverse and includes a study to identify science breakthroughs to advance food and agricultural research by 2030; a review of the citrus greening research portfolio of the Florida citrus growers; and a technical document of the nutrient requirements of poultry, among other activities. Robin joined BANR in 2005 from the Academies' Board on Life Sciences and Office of International Affairs, and before that, the National Institutes of Health. A native Washingtonian, Robin received a B.S. in biology and chemistry from Frostburg State College, Maryland, and an M.A. in Science and Technology Policy from George Washington University.

Nia Johnson recently joined the Division of Earth and Life Studies as a Program Officer in the Board on Life Sciences. She currently oversees the Roundtable on Science and Welfare in Laboratory Animal Use and is supporting the Engaging a Trusted Scientific Network in Southeast Asia to Counter Misleading Information about Biological Threats study. As the Roundtable responsible staff officer, she will also be overseeing the two upcoming Roundtable workshops, Effective Communication with the General Public about Scientific Research that Requires the Care and Use of Animals - A Workshop and the Contingency Planning and Training of Personnel Rule (APHIS-2020-0101), One Year of Implementation - A Workshop. Nia is a nineteen-year veteran of the National Academies and has spent much of her career at NAS in the Division on Engineering

and Physical Sciences supporting the work of the Board on Army Science and Technology, the Board on Army Research and Development, and the Intelligence Community Studies Board. Nia's portfolio of experience includes managing standing committees, workshops, colloquia and meetings of experts. Nia holds an M.S. in Biological Sciences from the University of Massachusetts Lowell and a B.S. in Biological Sciences from Morgan State University.

Susana Rodriguez, Ph.D., is a program officer with the Board on Animal Health Sciences, Conservation, and Research. She supports the Standing Committee for Care and Use of Animals in Research. She is project staff for the Committee on the Review and Transmission and Geographic Spread of Chronic Wasting Disease in U.S. Cervid Populations and is collaborating on a cross-divisional project addressing the synthetic opioid addiction and overdose crisis in the United States. Other National Academies studies she supported include a consensus study on nonhuman primate models in biomedical research. Prior to joining the National Academies in 2022, Dr. Rodriguez worked as a Senior Research Specialist at the Center for Metabolism and Obesity Research at the Johns Hopkins School of Medicine (JHSOM) investigating the molecular mechanisms that cells and animals utilize in response to nutritional and metabolic cues. For her postdoctoral work at JHSOM in the Department of Physiology, she characterized the metabolic functions of a novel and highly conserved family of secreted proteins that are altered by nutritional, metabolic, and disease states in the liver, aging kidney, and heart. Before starting her postdoctoral research, Dr. Rodriguez worked as an Evaluation Research Assistant for BioEYES, a science education program at the Carnegie Institution for Science, Department of Embryology. Dr. Rodriguez received her Ph.D. in Biological Chemistry from the JHSOM. Her doctoral research focused on developing chemical-genetic tools to control the spatial and temporal expression of metabolic enzymes involved in regulating skeletal muscle metabolism in mammalian cells. For her postbaccalaureate research, she conducted fetal glycogen metabolism research in the Department of Endocrinology at Boston Children's Hospital. She earned her B.A. in Chemistry with a minor in Biology at California State University Dominguez Hills.

Jessica De Mouy is a Research Associate for the Board on Life Sciences at the National Academies of Sciences, Engineering, and Medicine. Her projects include workshops for the Standing Committee on Use of Emerging Science for Environmental Health Decisions and Standing Committee on Advances and National Security Implications of Transdisciplinary Biotechnology and studies on Addressing Inaccurate and Misleading Information about Biological Threats through Scientific Collaboration and Communication and Biological Collections: Ensuring Critical Research and Education for the 21st Century. She received a Bachelor of Arts in Sociology from the University of Maryland, College Park.

Mariah Waul is a senior program assistant for the Board on Animal Health Sciences, Conservation, and Research at the National Academies of Sciences, Engineering, and Medicine. Since joining the National Academies in July 2023, Waul has supported various activities under the auspices of the board such as the Standing Committee for the Care and Use of Animals in Research and the Roundtable on Science and Welfare of Animals Involved in Research. Prior to the National Academies, Waul worked as a Lead Veterinary Surgery Technician for VCA Animal Hospital Centre Park. She is also active in her community as a volunteer. Her philanthropic work includes volunteering as a volunteer coordinator with NAMI Howard County, where she also serves on the Board of Directors and is the chair of the Volunteer Management Committee. She also participates in remote outreach volunteering with the Rattlesnake Conservancy in Jacksonville, FL. Waul is completing a B.A. in mathematics from Southern New Hampshire University and a college diploma in Wildlife/Forestry Conservation from Penn Foster College.

SPEAKER BIOGRAPHIES

Baneux, Philippe, DVM. is a veterinarian; he graduated from the State University of Ghent in Belgium and holds a California veterinary license. He worked in laboratory animal care and use programs in academic institutes in Southern California for 16 years. He then joined Pfizer Global Research and Development based in France, where he held several positions of increasing responsibility, including Deputy Director of the Department of Toxicology, Comparative Medicine, and Safety Pharmacology. He returned to the USA in 2005 to assume the position of Executive Director at the Center for Comparative Medicine, Northwestern University in Chicago, Illinois. In 2012 he joined Cornell University as the Attending Veterinarian and Director of the Center for Animal Resources and Education in Ithaca, NY. He contributed to the creation of and participated in the Veterinary Clinical Studies Committee at Cornell. He retired from these administrative positions in July of 2022. He is a member of the AVMA Council on Research and the Vice Chair Elect of the board of directors of AAALAC International. He was on the team of French language translators of the 1996 *Guide* and a reviewer of the 2011 *Guide for the Care and Use of Laboratory Animals*.

Baran, Szczepan, VMD. is a veterinarian scientist with 20 years of experience in understanding and applying technological advancements in drug development and clinical trials. He is passionate about transforming the delivery of innovative medicines to patients through digital technologies and data enablement while pushing the scientific envelope and reimagining patient engagement. Szczepan currently serves as a Chief Scientific Officer at VeriSIM Life where he leads the regulatory engagement and the research and development strategies and oversees scientific functions, including basic and applied research projects, and develops new processes, technologies, and products. He previously served as a Head of Emerging Technologies at Novartis. In this position, he led an integrated digital enterprise strategy focusing on developing and incorporating patient-relevant AI technologies and conducted decentralized clinical trials (DCT). In parallel, Szczepan focused on stakeholder engagement to identify adaptation hurdles and develop a regulatory qualification pathway for Microphysiological Systems (MPS) technologies. He has played instrumental roles in establishing Global MPS and Digital Biomarkers Groups with a vision for strategic alignment and data agility. Before joining VeriSIM Life, Dr. Baran held multiple start-up and faculty positions and served on numerous boards. He chaired the IQ MPS Affiliate and led the IQ MPS Affiliate Regulatory Outreach Group and served as an ad hoc member of National Academies on the NHP Model Systems Committee, and a member of the NIH Advisory Committee to the Director (ACD) Working Group on Catalyzing the Development and Use of Alternative Methods to Advance Biomedical Research. Currently, he serves as an advisory board member at BRIDGE, a co-chair of the AI, MPS and Translational Digital Biomarker Initiatives of the 3Rs Collaborative, and serves on the Scientific Advisory Committee on Alternative Toxicological Methods (SACATM) as an ad hoc member.

Bennett, Taylor, DVM. Ph.D. currently a management consultant in the area of sound public policy and regulatory compliance serving as the Senior Scientific Advisor for the National Association for Biomedical Research (NABR). He spent 36 years at the University of Illinois at Chicago (UIC) overseeing their animal care and use program and became the Associate Vice Chancellor for Research Resources where he oversaw 14 campus wide core research support facilities. He has served as the President of the Association of Primate Veterinarians, the American Association for Laboratory Animal Science and the American Society of Laboratory Animal Practitioners. He has served as a member of the Board of Directors of the National Association for Biomedical Research, which he chaired, and the American College of Laboratory Animal Medicine. He has also served as the ASLAP Delegate and Alternate Delegate to the AVMA House of Delegates and on both the 1993 and 2000 AVMA Panel on Euthanasia. He currently serves as Chair of the Board of the ASLAP Foundation and on the Board of Directors of the Scientist Center for Animal Welfare. He obtained his Doctor of Veterinary Medicine from Auburn University and his Ph.D. from the University of Illinois Medical School and is a Diplomate of the American College of Laboratory Animal Medicine and a Charter Diplomate of the American College of Animal Welfare.

Bloomsmith, Mollie, Ph.D. is Head of Behavioral Management, Emory National Primate Research Center Research Professor, Emory University. For more than 40 years Dr. Bloomsmith's interests have been in using the scientific method to assess the well-being of captive primates, and then applying these scientific findings to enhance their daily care. Her NIH grant funded research has included study of the welfare of rhesus macaques, chimpanzees, and mangabeys with subjects living in large outdoor groups and in indoor housing. Dr. Bloomsmith has been the Head of the Behavioral Management Unit at the Emory National Primate Research Center for 21 years. Previously she performed similar work at Zoo Atlanta and at the U.T.M.D. Anderson Cancer Center, Keeling Center. Dr. Bloomsmith has served as the President of the American Society of Primatologists, she is currently the Vice President for Welfare and Captive Care of the International Primatological Society. She was the founding Chair of ASP's Primate Care Committee, a founding Board Member of the sanctuary Chimp Haven, and she has served as an advisor to the Chimpanzee Species Survival Plan of AZA since 1988. She earned her Bachelor of Science in Animal Behavior at the University of California, Davis in 1982, and her PhD in Experimental Psychology from the Georgia Institute of Technology in 1987. She has published more than 150 articles and book chapters related to the behavioral management of nonhuman primates in research facilities, zoos, and sanctuaries, and enjoys teaches workshops on these topics.

Borkowski, Gary, DVM. is Chief Executive Officer (CEO) for AAALAC International and was Global Director from 2018-2023. In his role as CEO, Dr. Borkowski oversees the administration of AAALAC's international operations including offices in North America, Europe, and Asia. Dr. Borkowski received his veterinary degree from Iowa State University and a master's degree in laboratory animal medicine from Pennsylvania State University. He has 35 years of experience in academic and pharmaceutical laboratory animal medicine. Dr. Borkowski has presented and published on topics such as rodent aseptic surgery, animal facility design and construction, institutional animal care and use committees (IACUCs), electronic medical records, microgravity research, and management and leadership. Dr. Borkowski is currently President-elect for the International Association of Colleges of Laboratory Animal Medicine (IACLAM), and previously served as past President of the American Society of Laboratory Animal Practitioners (ASLAP) and past president of the American College of Laboratory Animal Medicine (ACLAM). Dr. Borkowski received the Stange Award from Iowa State University in 2020. The Stange Award is the highest honor given to alumni of Iowa State's College of Veterinary Medicine.

Burns, Monika, DVM. is a research animal health and welfare expert serving as the Associate Director of External Animal Activities at Novartis. She completed her undergraduate and veterinary studies at Tufts University and pursued a residency in laboratory animal medicine at the Massachusetts Institute of Technology. After working as a Senior Research/Clinical Veterinarian and Chief of Marmoset Resources at MIT, she joined the Animal Welfare Compliance team at Novartis in 2019. She has expertise in animal welfare, nonhuman primate medicine and surgery, and comparative medicine.

Conour, Laura, DVM. is the Executive Director of Laboratory Animal Resources and Attending Veterinarian at Princeton and a Senior Scholar is a nationally recognized veterinarian and experienced manager of animal care and use programs. Laura is also currently the Vice-President Elect of the American Association of Laboratory Animal Science. Before joining Princeton in 2011, Laura served as Director of Veterinary Services at Charles River Laboratories in Massachusetts, overseeing scientific development of transgenic models and other areas of animal research. From 2009-2011, Laura served as the Senior Director of U.S. Laboratory Animal Medicine, Preclinical Division at Charles River, where she ensured regulatory compliance and managed a 91,000-square-foot animal facility. Prior to her positions held at Charles River, Laura worked as a

manager and veterinarian in the laboratory animal science division at GlaxoSmithKline. She has also served as an instructor at multiple institutions including Mount Ida College, Thomas Jefferson University, Washington University in St. Louis, and the University of Pennsylvania. Laura earned her Bachelor of Science in veterinary medicine and her Doctor of Veterinary Medicine at the College of Veterinary Medicine at the University of Illinois at Urbana-Champaign. She completed a post-doctoral fellowship in comparative medicine at the Washington University School of Medicine in St. Louis and a second post-doctoral fellowship in an NIH-funded Biomedical Training Program with the Washington University Department of Psychiatry, where she developed and refined models of alcoholism. Laura became a diplomate of the American College of Laboratory Animal Medicine in 1999.

Churchland, Mark, Ph.D. is an Associate Professor in the Department of Neuroscience at Columbia University Medical Center. He is the co-director of the Grossman Center for the Statistics of Mind. He received his BA in mathematics and psychology from Reed College in Portland Oregon. He received his PhD in neuroscience from the University of California San Francisco. His postdoctoral work was in the Neural Prosthetic Systems Laboratory at Stanford University. Professor Churchland's research focuses on how the brain controls voluntary movement, and addresses on questions such as: how does the brain prepare and generate voluntary movement? What is the key event that triggers a movement, and in doing so turns thought into action? Can we reduce the problem of movement generation to a problem of characterizing the neural dynamics that are necessary to generate muscle activity? If so, how should we then think of upstream 'cognitive' processes that determine which movement to make and when to make it? Professor Churchland is a recipient of the 2012 NIH Directors' New Innovator Award. He received a 2015 Klingenstein-Simons Fellowship Award, a 2013 McKnight Scholar Award, a 2013 Sloan Research Fellowship, and a 2012 Searle Scholars Award. He was a 2006 recipient of the Burroughs Wellcome Fund Career Award and a 2003 recipient of the Helen Hay Whitney Research Fellowship.

DiVincenti, Louis, DVM. is the Senior Staff Officer for Research at the USDA. Dr. DiVincenti graduated from Louisiana State University School of Veterinary Medicine in 2010. He completed a residency in comparative medicine at the University of Rochester and Seneca Park Zoo in 2012, and was board certified by the American College of Laboratory Animal Medicine in 2013. Dr. DiVincenti earned a Master of Science in Clinical Translational Research in 2014 and was board certified by the American College of Animal Welfare in 2015. He worked in numerous academic and clinical practice settings before joining the National Policy Staff of USDA Animal Care.

Dysko, Robert C., DVM. is Active Emeritus Professor at the University of Michigan, having retired from full-time service in January 2024. Prior to his retirement, he was a faculty member of the Unit for Laboratory Animal Medicine (ULAM) at the University of Michigan since 1990. During his tenure he has had many responsibilities within the Unit including oversight of all campus animal facility design and construction projects, direction of the rodent health surveillance program, membership on the University's and 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. From July 2012 - June 2017 he was the fourth Director in ULAM's 50-year history. 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, serving on its Board of Directors from 2013-2017 as the at-large representative for Departments of Comparative Medicine. Dysko received a B.S. in zoology and DVM from Iowa State University and completed a residency in laboratory animal medicine at the University of Michigan. He has been involved with the National Academies since 2014, when he joined the Roundtable on Science

and Welfare in Laboratory Animal Use.

Garber, Janet, DVM. Ph.D. is a Private Consultant from Pinehurst, North Carolina. Previously she served as Vice President, Center for Assessment of Safety and Efficacy, Baxter Healthcare Corporation, Round Lake, Illinois. She earned her veterinary degree at Iowa State University and holds a doctorate in physiology/pathology from the University of Wisconsin. Dr. Garber is a past Chairman of the AAALAC International Council on Accreditation and Chair of the ILAR Committee to update the *Guide for the Care and Use of Laboratory Animals* (2011).

Gaskill, Brianna, Ph.D. received her PhD in Animal Behavior and Well-Being from Purdue University. She completed a 3-year postdoctoral position at Charles River Laboratories then returned to Purdue as a faculty member in 2014 and was awarded tenure in 2020. Her research has focused on developing new animal welfare assessment methodologies, rodent well-being, and elucidating the scientific impact of welfare problems in animal-based research. In 2020, Dr. Gaskill was hired by Novartis as their 3Rs scientist where her primary focus is applying 3Rs strategies in concert with disease-area scientists to improve both animal welfare and drug discovery. She has published over 80 peer-review manuscripts and her work has been acknowledged with awards from the NC3R's, the Swiss Laboratory Animal Science Association, and the International Society for Applied Ethology.

Hickman, Debra, DVM. is a laboratory animal veterinarian who is also boarded in animal welfare. She completed her veterinary training and post-doctoral training in laboratory animal medicine at the University of Illinois at Urbana-Champaign. She has served as the Attending Veterinarian for the Department of Veterans Affairs at Portland, OR, the School of Medicine at Indiana University in Indianapolis, IN, and at Purdue University in West Lafayette, IN. She has supported an active laboratory assessing the well-being of animals that are used in research, with an emphasis on rodent welfare. She is currently serving as the Global Director for AAALAC International.

Huerkamp, Michael, DVM. is a 1984 graduate of the College of Veterinary Medicine at The Ohio State University and in 1988 earned Diplomate status in ACLAM. He is a Professor of Pathology and Laboratory Medicine at Emory University in Atlanta, GA, where he has served as Attending Veterinarian and Executive Director of the Division of Animal Resources since 2002. Dr. Huerkamp is responsible for comprehensive programs of research animal care for a census that includes large numbers of rodents and fish and features livestock and birds and supports a grant portfolio valued more than \$180M.

Johnson, Cia, DVM. is Director of the AVMA's Animal Welfare Division. She began her tenure at the American Veterinary Medical Association in 2009 as an Assistant Director in the Animal Welfare Division with a portfolio that pertained to equine, livestock and poultry welfare issues. Her background in agriculture was an asset that allowed her to be especially effective with responsibilities such as food animal production and handling practices. Dr. Johnson was named Director of the AVMA's Animal Welfare Division in 2016 and continues to maintain a portfolio containing equine and poultry welfare issues. Dr. Johnson provides staff support to the AVMA's Animal Welfare Committee and to the AVMA's Panels on Euthanasia, Humane Slaughter, and Depopulation. Dr. Johnson earned her DVM and M.S. in Animal Science from the University of Missouri-Columbia and more recently completed an MSc from the University of Edinburgh in International Animal Welfare, Ethics and Law.

Khankari, Kishor, Ph.D. is President and owner at AnSight LLC in Ann Arbor. He provides engineering

solutions and insights through CFD analysis. Kishor has 30 years of experience in providing optimized HVAC solutions to a wide variety of applications involving plume dispersion from stack exhaust and cooling towers, displacement ventilation, natural ventilation, radiant heating and cooling, and similar other HVAC applications. Dr. Khankari has developed a patented technology of a wind band design of exhaust fan assembly systems. A noted expert in CFD, he has a Ph.D. from the University of Minnesota and has been regularly published in several technical journals and trade magazines. Dr. Khankari has made over 100 DL presentations worldwide on topics related to design and optimization of HVAC systems and also at various technical conferences and professional meetings. Dr. Kishor Khankari is a Fellow member of ASHRAE and a recipient of ASHRAE Distinguished Service Award, Exceptional Service Award and Louise and Bill Holladay Distinguished Fellow Award. He served on several ASHRAE committees. He is the past President of Detroit ASHRAE Chapter, past Chair of ASHRAE Technical Committee TC9.11 Clean Spaces, and the past Chair of Research Administration Committee (RAC). He is a voting member of the ASHRAE Standards Project Committee SPC 129 – “Measuring Air Exchange Effectiveness” and SPC 241 – “Control of Infectious Aerosols”. He also leads a Multi Task Group (MTG) on Air Change Rates. He currently serves on the ASHRAE Board as Director-at-Large (DAL).

Kornegay, Joe N., DVM, Ph.D. is currently Chair of the Board of Directors at AAALAC International. Dr. Kornegay joined AAALAC International as a Member Organization Delegate representing AAVMC in 2018. He received his veterinary degree from Texas A&M and then spent three years in private practice, followed by six years in residency (neurology and pathology) and graduate (Masters and PhD) training at the University of Georgia. He subsequently was on faculty at North Carolina State University, the University of Missouri, the University of North Carolina-Chapel Hill, and Texas A&M University before retiring in 2019. As a faculty member, Dr. Kornegay had clinical responsibilities in both medical neurology and neurosurgery and also consulted in neuropathology. In addition, he served as a Department Chair, Hospital Director, and Dean at Missouri and Director of the Texas A&M Institute for Preclinical Studies (TIPS) at Texas A&M. His research focused on a canine disease that serves as a model for Duchenne muscular dystrophy and was principally supported by the NIH and Muscular Dystrophy Association (MDA).

Lester, Patrick, DVM. is an experienced comparative medicine veterinarian and board-certified pharmacotherapy specialist pharmacist. He has acquired a unique blend of human and veterinary clinical expertise coupled with research experience in both academic and industry settings. This combined professional experience is well-aligned with the One Health Initiative especially in terms of drug development, prescribing, dispensing, and administration of drugs related to human health, veterinary medicine, agricultural and occupational health. In these efforts, he has acquired clinical, administrative, teaching, and research experience in human hospital and community pharmacy facilities, pharmaceutical industry and biotechnology settings, and human and veterinary medical research universities. In addition, he is knowledgeable and experienced with current human and veterinary pharmacotherapy and evidenced based guidelines, drug compounding, and controlled substance regulatory compliance. He serves as the faculty advisor for the compassion fatigue program within the University of Michigan, Unit for Laboratory Animal Medicine.

Leszczynski, Jori, DVM. is currently the Assistant Vice Chancellor for Animal Resources, Director of the Office of Laboratory Animal Resources and University Veterinarian at the University of Colorado Denver | Anschutz Medical Campus, as well as a Professor in the Department of Pathology in the School of Medicine and is a Diplomate of the American College of Laboratory Animal Medicine. Dr. Leszczynski attended The Ohio State University for her Bachelors and Veterinary degrees and performed her residency in Laboratory Animal Medicine at the University of Illinois at Chicago. Throughout her career, she has held multiple leadership roles in animal facilities including Associate Director at the Cleveland Clinic Foundation, Director

and AV at National Jewish Health, and Interim Director and AV at the University of Colorado Boulder. In all of her positions, Dr. Leszczynski has focused on program compliance, personnel management, budget, husbandry, and clinical management of the species she oversees. Dr. Leszczynski has a history of service to many professional organizations including leadership roles for the American Society of Laboratory Animal Practitioners (ASLAP, Board of Directors and Membership Committee Chair), American Association for Laboratory Animal Science (AAALAS, 2025-2026 President, Institute for Laboratory Animal Management Committee, Local Arrangements Chair for 2019 Denver AALAS National Meeting, President of the Mile High Branch AALAS), the American College of Laboratory Animal Medicine (ACLAM, Board of Directors) and Public Responsibility in Medicine and Research (PRIM&R, IACUC Conference Planning Committee (Chair), Board of Directors (Chair and Treasurer). She has also served as an ad hoc site visitor for AAALAC International since 2018.

Lipman, Neil, VMD. is Director of the Center of Comparative Medicine and Pathology serving the Memorial Sloan-Kettering Cancer Center (MSKCC) and the Weill Medical College of Cornell University and is Professor of Veterinary Medicine in Pathology and Laboratory Medicine at Weill Cornell as well as a Laboratory Member at the Sloan-Kettering Institute at MSKCC. Dr. Lipman is a Diplomate of the American College of Laboratory Animal Medicine with over 25 years' experience in laboratory animal medicine and science. Dr. Lipman has expertise in vivarium design, engineering, and operations, having designed over 1.5 million gross square feet of vivarium space and overseen the operation of a number of major academic animal resource programs. His research interests are principally translational and include development and analysis of new technologies especially with respect to rodent housing systems and monoclonal antibody production, the characterization of various animal models, understanding the etiopathogenesis of endocrinologic disorders affecting laboratory animal species, and development and analysis of novel therapeutic strategies. Throughout his career, Dr. Lipman has been extensively involved in the postgraduate training of laboratory animal specialists.

Malbrue, Raphael, DVM. is a native of Baton Rouge, LA. He completed his undergraduate and veterinary school training at Tuskegee University. He then went on to complete a residency program in Laboratory Animal Medicine at Louisiana State University. In conjunction with his residency program Dr. Malbrue also completed a Master's of Science degree in Biomedical and Veterinary Medical Sciences through the Department of Pathobiological Sciences at Louisiana State University and became a Certified Aquatic Veterinarian (WAVMA). He is currently the Director and Attending Veterinarian for The Center for Comparative Medicine (CCM) at the University of Virginia (UVA). Prior to UVA Dr. Malbrue held numerous leadership roles between the Wexner Research Institute at Nationwide Children's Hospital (Animal Resources Core) and The Ohio State University in Columbus, OH. Dr. Malbrue is an officer (rank-Captain) in the United States Army Reserve (7356th Veterinary Detachment). His research interest includes methods to improve diversity and wellness in veterinary medicine, aquatic animal medicine, and implementation of the three R's (replacement, reduction, and refinement) in biomedical research.

Martin, Tara, DVM. is a faculty veterinarian at the University of Michigan's Unit for Laboratory Animal Medicine, where she also directs the Refinement and Enrichment Advancements Laboratory. Dr. Martin graduated from the VA-Md Regional College of Veterinary Medicine in 2013 and completed a residency program in laboratory animal medicine at The Ohio State University in 2016. Her research interests include compassion fatigue in laboratory animal care staff and refining common procedures to reduce stress in laboratory animals.

Meechan, Paul, Ph.D. is currently a biosafety consultant, providing guidance and training to a number academic and government institutions regarding safe containment practices. He has over 30 years' experience in the field, including positions at the CDC and Merck and Co., Inc. He was also the CDC editor for the 6th edition of the NIH/CDC manual *Biosafety in Microbiological and Biomedical Laboratories*. Paul has served as President of ABSA International and holds a Ph.D. in Radiation Biology from the University of Rochester.

Niemi, Steve, DVM. is a Diplomate and past president of the American College of Laboratory Animal Medicine and has served on numerous boards and national task forces addressing medical product development and laboratory animal welfare. With over 40 years' experience in biomedical research and commercial biotechnology, Steve has held senior management positions in contract drug and device development, biotech start-ups in human gene therapy and food animal genomics, and laboratory animal care and assurance. Steve earned an AB with a concentration in Biology from Harvard College, a DVM from Washington State University, and received a US Public Health Service National Research Service Award while a Postdoctoral Fellow at the Massachusetts Institute of Technology. He completed the Program for Management Development at the Harvard Business School in 1991 and was a 2019-2020 Visiting Fellow in the Animal Law & Policy Program at Harvard Law School. Steve currently is Attending Veterinarian and Director, Animal Science Center, Boston University and Adjunct Professor, Department of Comparative Pathobiology, Cummings School of Veterinary Medicine at Tufts University.

Pritchett-Corning, Kate, DVM. is the Attending Veterinarian and Director, Office of Animal Resources, at the Harvard University Faculty of Arts and Sciences. Dr. Pritchett-Corning received her degrees from Washington State University and her post-doctoral training at the University of Washington. She became a diplomate of the American College of Laboratory Animal Medicine in the early 2000s and has held positions at the University of Washington, the Jackson Laboratory, and Charles River. In 2015, she received the AALAS Pravin Bhatt Scientific Excellence Award. Dr. Pritchett-Corning has worked almost exclusively with mice for 30 years and has authored more than 80 peer-reviewed publications.

Pritt, Stacy, DVM. is Associate Vice Chancellor and Chief Research Compliance Officer at The Texas A&M University System. Dr. Pritt received her Doctor of Veterinary Medicine degree from Washington State University (WSU). After veterinary school, she earned an MBA in Healthcare Management and an MS in Managerial Science. Her certifications include Certified Professional in IACUC Administration (CPIA), Certified in Healthcare Research Compliance (CHRC) and diplomate status in the American College of Animal Welfare (DACAW). She is a past president of both ACAW and the Laboratory Animal Welfare Training Exchange (LAWTE), and is a past vice-president of the American Veterinary Medical Association (AVMA). In both industry and academia, Dr. Pritt has overseen research animal facilities, breeding facilities for multiple species, and large institutional animal care and use committees (IACUCs). Currently, she oversees research compliance for the 11 academic institutions and 8 state agencies that comprise the Texas A&M University System, which includes a veterinary school, medical school, and multiple animal research programs across Texas, many of which are unique in their research focus. Dr. Pritt is a recipient of the Society of Research Administrators International (SRAI) Distinguished Faculty Designation, WSU College of Veterinary Medicine Distinguished Service Alumni Award, AALAS George R. Collins Education and Training Award, and the LAWTE Founders' Award. She is the author of dozens of publications on animal research oversight, animal welfare, regulatory compliance, leadership and management, and rabbit medicine and research.

Schoenleben, Aubrey, Ph.D. is the Director of Regulatory Affairs & External Partnerships in the Office of Animal Welfare (OAW) at the University of Washington (UW). In this role, she oversees regulatory reporting for the University's animal care program and manages collaborative research agreements. She also serves as an

alternate member of UW's IACUC. Aubrey leads the Federal Demonstration Partnership's Compliance Unit Standard Procedures (CUSP) project, a burden reducing initiative of the 21st Century Cures Act.

Aubrey received her doctoral degree in neurobiology from the University of Maryland, Baltimore and her Bachelor of Science degree in Neuroscience and Psychology from Allegheny College. She is also a Certified Professional IACUC Administrator.

Smith, Thomas C., is the President and CEO of 3Flow. Mr. Smith has worked for more than 30 years helping facilities provide safe, efficient, and sustainable performance of labs and critical workspaces. He holds a Bachelor of Science in Mechanical Engineering from North Carolina State University and a Master of Science in Industrial Hygiene from the University of North Carolina. Mr. Smith has chaired and served on numerous committees for the development of national and international standards on Ventilation for safety and Health. He serves on the Board for the International Institute of Sustainable Labs (I2SL) and is a member of the Alumni Hall of Fame for the Mechanical and Aerospace Engineering Department at North Carolina State University.

Stapp, Paul, Ph.D. is a Professor in the Department of Biological Science at California State University (CSU) Fullerton, a comprehensive university in the 23-campus CSU system. His research interests include behavioral, population, and community ecology of wildlife species, particularly mammals, in arid and semi-arid ecosystems, and applied problems related to their conservation and management. He earned his BS in Zoology from the University of California Davis, a MS in Wildlife from the University of New Hampshire, and his PhD in Zoology-Ecological Studies from Colorado State University. He directs the department's graduate program and serves on a state agricultural board to evaluate vertebrate pest control research projects. Since 2017 he has chaired the CSU Fullerton Institutional Animal Care and Use Committee.

Storves, Kate, DVM. is a Clinical Veterinarian and Manager of Laboratory Services at Intuitive in Norcross, Georgia. She joined Intuitive in 2017. Kate received her bachelor's degree from Clemson University and her DVM from the University of Georgia. She completed a postdoctoral fellowship in the Unit for Laboratory Animal Medicine at the University of Michigan and became a boarded diplomate in the American College of Laboratory Animal Medicine in 2013. Following her training, Kate supported the clinical medicine team at MPI Research (now Charles River) in Mattawan, MI and was the Director of Preclinical Studies for Vicapsys in Athens, GA prior to joining Intuitive. Kate has served as secretary of the Committee for Laboratory Animal Training and Research (CLATR) for 10 years and has held several leadership positions on ASLAP committees. She also currently represents AALAS on the Veterinary Consortium for Research Animal Care and Welfare.

Tucker, Cassandra, Ph.D. is a Professor of Animal Science, Director of the UC Davis Center for Animal Welfare at Department of Animal Science, University of California, Davis. Professor Tucker earned a BSc from University of California, Davis and her PhD from the University of British Columbia in 2003. Professor Tucker leads a research team focused on cattle behavior and welfare at UC Davis in the Animal Science Department. She aims to understand the effects of housing and management systems from the animal's perspective. Cassandra also works as a consultant to help private and non-governmental organizations develop animal care standards as well as training and auditing programs. Through these activities, scientific information informs the day-to-day lives of cattle and the people that care for them. Professor Tucker teaches courses about domestic animal behavior and animal welfare at UC Davis.

Thompson-Iritani, Sally, DVM. is the Assistant Vice Provost for Animal Care, Outreach and the 3Rs at the University of Washington (UW). She has experience in both industry and academia as a laboratory animal veterinarian, IACUC administrator, facility manager and preclinical researcher. She has received certification as an IACUC Administrator (Prim&R), Compassion Fatigue Professional (IATP), Compassion Fatigue Educator (GreenCross) and Human Animal Bond Practitioner (AVMA). She is the executive sponsor for the UW Dare to

Care (D2C) program which provides support and Compassion Resiliency resources for personnel that care and work with research animals and serves as a mentor for the UW One Health Program OHHA (Occupational Health at the Human-Animal Interface) that trains physicians on the role of One Health in our society. Other areas of emphasis are development of novel ways to support animal welfare and decrease regulatory burden by standardization of procedures (Compliance Unit Standard Procedure (CUSP) partnered with Federal Demonstration Partnership), and utilization of Positive Reinforcement Training (PRT) to minimize stress when working with research animals. She is involved nationally with the North American 3Rs Collaborative, US Openness Initiative, American Society for Laboratory Animal Practitioners and locally with the Northwest Association for Biomedical Research and the Washington State Veterinary Medical Association.

Turner, Patricia V., DVM. is a laboratory animal veterinarian and pathologist who works as Corporate Vice-President, Global Animal Welfare for Charles River Laboratories. In this role, she is responsible for assessing welfare risks and developing animal welfare policy and related training for the company's sites around the world. Dr. Turner is also a Professor Emerita at the University of Guelph, where she worked previously as a tenured professor in the Department of Pathobiology overseeing teaching and graduate programs in laboratory animal science and managing the university's laboratory animal diagnostic pathology core. Turner's current research interests include optimizing behavioral management programs for research animals, refining pain recognition and mitigation, and compassion science for laboratory animal professionals. Dr. Turner is a Diplomate of the American College of Laboratory Animal Medicine (ACLAM), the American Board of Toxicology (ABT), and the European College of Animal Welfare and Behavioral Medicine (specializing in Animal Welfare Science, Ethics, and Law; ECAWBM). She is the President-Elect of the American College of Laboratory Animal Medicine, a member of AAALAC Council, a member of the ILAR Guide 8th ed Committee, and also an author and co-editor of many chapters, books and papers on animal welfare, laboratory animal science, and small mammal pathology.

Vasbinder, Mary Ann, DVM. is the Attending Veterinarian with the Laboratory Animal Sciences and Governance organization at GSK in Upper Providence, PA. She graduated from the University of Florida veterinary college and went on to complete a residency in Laboratory Animal Medicine at North Carolina State University. This year marks 25 years of service to the GSK organization, starting at the Research Triangle Park (RTP) site in North Carolina. In 2016 she joined the Office of Animal Welfare, Ethics and Strategy, where she headed Internal Business Monitoring, Training, and Animal External Diligence teams. She moved to the Upper Providence site 5 years ago where she now serves as the Attending Veterinarian, responsible for the animal care and use program at UP. Mary Ann's passions lie with improving welfare for animals in research environments. She also aspires to motivate and develop animal care personnel.

Varga, Zoltan, Ph.D. is Director of Zebrafish International Resource Center Institute of Neuroscience at the University of Oregon. He was born in Germany and attended high school in Grenzach-Wyhlen until 1986. He pursued his undergraduate studies, Diploma, and Ph.D. (1986-1995) in Neurobiology/Cell Biology at the Biocenter Basel in Switzerland. Under Prof. John G. Nicholls, his Ph.D. research (1992-1995) focused on the regenerative capacity of the immature mammalian central nervous system, using the South American Opossum (*Monodelphis domestica*). He then completed a post-doc at the University of Oregon's Institute of Neuroscience (USA, 1995-1999), studying zebrafish (*Danio rerio*) embryonic neural plate development and bilateral eye formation versus cyclopia under Prof. Monte Westerfield. Upon returning to Germany, he established my laboratory at the Albert Ludwigs University in Freiburg, Germany as a junior research-group leader in the Department of Prof. Wolfgang Driever (1999-2004), studying ventral neural plate and forebrain development, alongside structures like the pituitary placode/hypophysis, lens, and hypothalamus. In 2004, he relocated to Eugene, OR, USA, where he assumed his current position directing the Zebrafish International Resource Center and serving on the UO IACUC as a voting member. As a genetic repository, ZIRC collects,

maintains, and distributes zebrafish lines and provides veterinary diagnostic services. This work supports the scientific community by researching, developing, and disseminating zebrafish husbandry and health standards, crucial for advancing zebrafish-based research worldwide.

Weishaar, Kristen, DVM. is Director of Clinical Trials at Colorado State University Flint Animal Cancer Center. Dr. Weishaar attended veterinary school at the Cummings School of Veterinary Medicine at Tufts University. She completed a rotating internship at Red Bank Veterinary Hospital in Tinton Falls, NJ, followed by an oncology specialty internship with Friendship Hospital for Animals in Washington, DC and the contract research organization Animal Clinical Investigation, LLC. She then spent a year as the clinical trials intern at Colorado State University and stayed on at CSU to complete her medical oncology residency. She is currently the Director of the Oncology Clinical Trials service at the Colorado State University Flint Animal Cancer Center, where she oversees the clinical operations of the trials service and assists investigators in the development of clinical research studies. Her focus is on improving the quality of veterinary clinical trials and the data obtained to continue to expand knowledge in the realm of cancer diagnostics and treatments in both animals and humans.

Wolff, Axel, DVM. is serving as the Acting Director of NIH OLAW. Previously, he served as the Deputy Director, Office of Laboratory Animal Welfare (OLAW), NIH. At OLAW he has also served as the Director, Division of Compliance Oversight and as a Senior Assurance Officer. Prior to joining OLAW, Dr. Wolff was the director of the Veterinary Resources Program, NIH's intramural biomedical research support program. He also directed NIH's animal quarantine facility and served at the neurology institute. Dr. Wolff's interest in unique research animals has involved him in work with armadillos, chimpanzees, and fruit bats as well as the more common species. He serves on the editorial board of Lab Animal and EMBO Reports and has published on various topics including primate enrichment and interpretations of various provisions of the Public Health Service Policy on Humane Care and Use of Laboratory Animals.

ADVANCED READING

- [The Guide for the Care and Use of Laboratory Animals, 8th Edition](#)
- [AAALAC's Three Primary Standards](#)
- [AVMA guidelines for the euthanasia of animals](#)

- [PHS Policy on Human Care and Use of Laboratory Animals](#)
- [NIH ACD Working Group on Enhancing Rigor, Transparency, and Translatability in Animal Research](#)
- [NIH Enhance Rigor and Reproducibility in Animal Research by Managing Extrinsic Factors Workshop:](#)
 - [Session 1. Aquatic Animals, September 23, 2022](#)
 - [Session 2. Rodents, September 28, 2022](#)
 - [Session 3. Large Animals \(Nonhuman Primates/Swine\), September 30, 2022](#)
 - [All Sessions](#)
- [Reporting animal research: Explanation and elaboration for the ARRIVE guidelines 2.0](#)
- [Marseille Declaration on the worldwide implementation of high standards for animals housed and used internally and externally by the industry for scientific purposes](#)
- [European Convention for the Protection of Vertebrate Animals Used for Experimental and other Scientific Purposes \(ETS 123\)](#)
 - [Appendix A](#)
 - [Background information for species-specific sections of Appendix A](#)
 - [Appendix B](#)
- [Directive 2010/63/EU](#)
- [Discussing and Understanding Animal Welfare Challenges in Research and Education on Wildlife, Non-Model Species and Biodiversity – A Workshop](#)
- [Animal Welfare Challenges in Research and Education on Wildlife, Non-Model Animal Species and Biodiversity- Proceedings of a Workshop](#)
- [Nonhuman Primate Models in Biomedical Research: State of the Science and Future Needs-A Consensus Study Report](#)
- [USDA Animal Welfare Act](#)
- [Cephalopods in Research-NIH OLAW](#)
- [Biosafety in Microbiological and Biomedical Laboratories \(BMBL\) 6th Edition](#)