Effective Communication with the

General Public about Scientific

Research that Requires the Care and

Use of Animals - A Workshop

Meeting 1

**Briefing Book** 



# Effective Communication with the General Public about Scientific Research that Requires the Care and Use of Animals Workshop

## Workshop Day 1 & 2



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Tuesday, December 19, 2023, 10:30am - 5:00pm ET/7:30am - 2:00pm PT/8:30am - 3:00pm MT

10:30am-11:00am ET **Welcome and Introduction** 

Nia Johnson, Program Officer, National Academies

Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

11:00am-11:30am ET 2023 Survey Findings on Public Opinion Regarding Animals Involved in Research

Sally Thompson-Iritani, Committee Member

Joseph Newsome, Committee Member

11:30am-12:30pm FT **Concerns of the Media** 

Presenter: Paul McKellips, Credence Management Solutions, LLC

Scientist: Matt Rassette, Minneapolis VA Medical Center

Moderators/Analysis: Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

12:30pm-1:00pm

Lunch/Break

1:00pm-2:00pm ET

**Concerns of Non-Scientists** 

Presenter: Jessica Kwan, UCDavis

Scientist: Katherine Serafine, The University of Texas at El Paso

Moderators/Analysis: Sally Thompson-Iritani, Committee Member

Joseph Newsome, Committee Member

Moderators/Analysis: Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

2:00pm-2:30pm ET **Inadequately Communicated Topics** 

Presenter: Allyson Bennett, University of Wisconsin-Madison

Moderators: Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

2:30pm-2:45pm ET **Break** 

2:45pm-3:45pm ET **Making Communication Effective** 

Presenter: Simar Bajaj, Harvard University

Scientist: Marie Brake, Centers for Disease Control and Prevention

Moderators/Analysis: Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

3:45pm-4:15pm ET **Communicating about NAMs** 

Presenter: Lisa Hara Levin, Coridea

Moderators: Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

**Planning Committee Closed Session** 4:15pm-5:00pm

ET

## Wednesday, December 20th, 2023, 10:30am - 5:00pm ET/7:30am - 2:00pm PT/8:30am - 3:00pm MT

**Welcome and Recap** 10:30-11:00am ET

Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

11:00-11:30am ET **USARO** 

Presenter: Nicole Navratil, Sterling Biomedical Resources

Moderators: Paula Clifford, Committee Member

Crystal Johnson, Committee Member

11:30-12:30pm ET **Considerations Along the Spectrum of Openness** 

Panelist: Christine Lattin, Louisiana State University (Personal)

Wendy Jarrett, Understanding Animal Research (UK Concordat)

Jim Newman, Americans for Medical Progress (US)

Eva Maciejewski, Foundation for Biomedical Research (US)

Moderators: Paula Clifford, Committee Member

Crystal Johnson, Committee Member

12:30pm-1:00pm Lunch/Break

1:00pm-2:00pm ET

**Concerns of Institutional Leadership** 

Interview: Bill Yates, University of Pittsburgh, Interviewer: Margaret Landi, Committee Vice-

Chair

Scientist: Lana Ruvolo Grasser, Wayne State University School of Medicine

Moderators/Analysis: Alissa Hatfield, Committee Member

Jeffrey Henegar, Committee Member

**Communicating about Ethics** 2:00pm-2:30pm ET

Presenter: Adam Shriver, Drake University

Moderators: Candace Croney, Committee Member

Jeffrey Henegar, Committee Member

2:30-2:45pm ET **Break** 

2:45pm-3:45pm ET **Communicating on Social Media** 

Presenter: Logan France, Americans for Medical Progress

Moderators: Candace Croney, Committee Member

Jeffrey Henegar, Committee Member

3:15pm-4:00pm ET Q&A Panelists: Jessica Kwan, UCDavis

Allyson Bennett, University of Wisconsin-Madison

Lisa Hara Levin, Coridea

Adam Shriver, Drake University

Nicole Navratil, Sterling Biomedical Resources

Simar Bajaj, Harvard University

Logan France, Americans for Medical Progress

Adam Shriver, Drake University

Moderators: Alissa Hatfield, Committee Member

Jeffrey Henegar, Committee Member

4:00pm-4:15pm ET Wrap-up Alice Huang, Committee Chair

Margaret Landi, Committee Vice-Chair

Nia Johnson, Program Officer, National Academies

4:15pm-5:00pm ET **Planning Committee Closed Session** 

#### **Land Acknowledgement**

The National Academies of Sciences, Engineering, and Medicine acknowledges that the land on which we carry out our mission of engaging in science and technology policy works resides on the traditional territories of the Piscataway and Nacotchtank peoples.

This acknowledgement confirms our commitment to our community and stakeholders and our desire to broaden our engagement.

#### **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.

#### **COMMITTEE MEMBER BIOGRAPHIES**

Alice Huang, Chair most recently served for 17 years as the Deputy for IACUC (Institutional Animal Care & Use Committee) Guidance at the Veterans Health Administration of the U.S. Department of Veterans Affairs (VA). In that role, she was responsible for integrating VA policy regarding research with animals with other VA requirements and the requirements of the Office of Laboratory Animal Welfare at the National Institutes of Health, the U.S. Department of Agriculture, and AAALAC International. She then communicated guidance about implementing those integrated policies to the 70+ VA programs of research with animals. She also served as a primary contact for addressing the concerns of the public about VA research with animals. Huang received an Sc.B. degree in biophysics from Brown University and a Ph.D. in physiology and biophysics from the University of Washington. She then did research in cardiovascular physiology at the University of Freiburg, Germany, at Georgetown University, and at Emory University, and taught the Medical Physiology course at the Morehouse School of Medicine for 10 years, leading initiatives to improve the communication of key concepts to the students.

Margaret Landi, Vice Chair has worked in the field of laboratory animal medicine and bioethics for four decades. Landi began her career as a staff veterinarian and eventually became Vice President (VP) for Global Laboratory Animal Science at GlaxoSmithKline (GSK) Pharmaceuticals before retiring. She was accountable for successful laboratory animal programs in eight countries and led over 400 people working across 10 animal facilities in the United States, the United Kingdom, Italy, Spain, Croatia, Japan, Singapore, and China. In 2012, Landi became the inaugural VP of Animal Welfare, Ethics, Strategy and Risk, and Chief Veterinary Officer, governing all animal programs for GSK Pharmaceuticals. She has received a number of awards including the Harry C. Rowsell Award from the Scientists Center for Animal Welfare (SCAW), for actively demonstrating "commitment to good science and the humane treatment of animals". She presently sits on Boards for the SCAW and the Chimp Haven sanctuary. Landi received a VMD and Master in bioethics from the University of Pennsylvania, and an M.S. in comparative medicine from Pennsylvania State University, and is certified as a Diplomate in the American College of Laboratory Animal Medicine. She served on the Board for the Institute of Laboratory Animal Research (ILAR) and later Chaired the ILAR Council and also served on the Committee on the Use of Chimpanzees in Biomedical and Behavioral Research.

Paula A. Clifford is the executive director of Americans for Medical Progress (AMP), a non-profit organization that informs and educates the public about the important role of animal research in advancing medicine and science. AMP also provides programs and services to support the biomedical research community. Before joining AMP, Clifford worked for the Pennsylvania Society for Biomedical Research (PSBR) where she led efforts to provide educational programs about biomedical research for K-12 students. Her past professional roles include Co-founder and Vice President of Operations for Animal Care Training Services (ACTS) and Veterinary Technician and then Training Manager for the University Animal Resources Department at the University of Pennsylvania. She has received several awards from national and local branches of the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) International to recognize her accomplishments in training and education. Clifford received an Associate of Applied Science in veterinary technology degree from Camden County College, a B.A. from Rutgers University, and an M.A. the University of Pennsylvania. She is a Pennsylvania Licensed Veterinary Technician (CVT) and is certified by the American Association for Laboratory Animal Science (AALAS) as a Registered Laboratory Animal Technologist (RLATG).

Candace Croney is Associate Vice-Provost for Diversity, Inclusion and Belonging, Director of the Center for Animal Welfare Science, and Professor of Animal Behavior and Well-being at Purdue University. Before joining Purdue, she was a postdoctoral scholar at the University of Maryland, College Park, served as Assistant Director of Conservation Education at the American Zoo and Aquarium Association, and held faculty appointments in Animal Behavior and Bioethics in the Animal Sciences Department at Oregon State University and in Preventive Medicine at The Ohio State University. Croney's expertise and research focuses are developing and applying non-invasive metrics of welfare in agricultural and companion animals; understanding effects of rearing environments and management on animal behavior, health, and welfare; bioethical considerations in animal care and use; public perceptions of animal agriculture and welfare; bioethics-science interfaces in animal welfare policy, practice, and public communications. She is a Purdue University Faculty Scholar and the 2023 recipient of the American Veterinary Medical Association Humane Award. She is a member of the International Society for Applied Ethology and the American Society of Animal Science. Croney received a B.S. in animal science from Rutgers University and an M.S. and Ph.D. in animal science from Pennsylvania State University.

Alissa Hatfield is the Manager of Science Policy at the American Physiological Society where she works on science policy topics relating to animal research. In this role, she follows legislative issues related to animal research and participates in Congressional education on these topics. She also organizes the American Physiological Society's responses to agency Requests for Information on issues pertaining to animal research. Prior to a career in science policy, Hatfield studied the effects of hormonal contraceptives on basic immune function while studying laboratory animal science at Stanford University. Hatfield received a B.S in physiology from University of Arizona and an M.S in laboratory animal science from Stanford University.

Jeff Henegar is currently Director of the Office of Animal Resources and the Animal Care Quality Assurance Office at the University of Missouri. Prior to his current position, he was Associate Professor of Pathology at the University of Mississippi Medical Center doing cardiovascular research. After 25 years of research, using many animal models including mice, rats, rabbits, dogs, and pigs, he moved to oversee animal welfare and compliance of animal use in research and teaching. He has been involved with Institutional Animal Care and Use Committees (IACUCs) for nearly 20 years as a member and chair and was a member and then chair of the Animal Care and Experimentation Committee for the American Physiological Society (APS). These roles contributed to his understanding of public perceptions of research involving animals. Henegar received an M.A. in biology-olfaction and a Ph.D. in physiology from University of Missouri.

Crystal H. Johnson is the Director and Attending Veterinarian of the Division of Comparative Medicine at Georgetown University. Prior to this position, she was the Associate Director of the Center for Comparative Medicine and Surgery at the Icahn School of Medicine at Mount Sinai. Johnson serves on several committees within the Georgetown University Institution as well as being a leader within the American Association of Laboratory Animal Science (AALAS) and the Association of Primate Veterinarians (APV), where she currently serves as the Chair of the Diversity, Equity, and Inclusion Committee for APV. Her interest and passion support creating an environment within biomedical research that advocates for animal and human welfare while embodying a diverse and inclusive culture at the forefront of research discoveries that are rigorous and reproducible with sustained enrichment for all. Johnson received a DVM from Tuskegee University School of Veterinary Medicine and then pursued a career in public health by attending the Center for Disease Control and

Prevention's Laboratory Animal Medicine Training Program. She also received an MPH from the Icahn School of Medicine at Mount Sinai and is a Diplomate of the American College of Laboratory Animal Medicine.

Joseph T. Newsome is an Associate Professor in the Department of Pathology and Associate Director – Division of Laboratory Animal Resources at the University of Pittsburgh. He is also the Director of the University of Pittsburgh Medical Center Hillman Cancer Center. His current focus and expertise are in management, biosecurity, biocontainment, facility design and operations, and cancer modeling, immunology, and virology. He is involved in national and industry level organizations such as the American College of Laboratory Animal Medicine, the Association of Primate Veterinarians, the American Association of Laboratory Animal Science, and the American Veterinary Medical Association. Newsome received a B.Sc. in microbiology, an M.S. in pathobiology, and a DVM from the Ohio State University College of Veterinary Medicine. He is a Diplomate of the American College of Laboratory Animal Medicine.

Yuko Sato is an Associate Professor at the Iowa State University College of Veterinary Medicine and Serves as the university's Poultry Extension Veterinarian and Diagnostic Pathologist. Her extension programs focus on poultry infectious disease diagnosis, prevention, and investigation, and her research includes topics of poultry diseases such as avian influenza, diagnostic assay development and validation, and case studies on infectious poultry diseases. Sato currently chairs the outreach committee of the American Association of Avian Pathologists and the committee on poultry in the United States American Health Association and serves on numerous advisory boards such as the United Egg Producers Scientific Committee for Animal Welfare and the National Animal Disease Preparedness and Response Program (NADPRP) Consultation Board. Sato received her DVM and Master's in poultry diagnostics from Purdue University. She is a Diplomate of the American College of Poultry Veterinarians.

Sally Thompson-Iritani 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 OHHAI (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 the Federal Demonstration Partnership), and utilization of Positive Reinforcement Training (PRT) to minimize stress when working with research animals. She is involved nationally with the 3Rs Collaborative (3RsC), the US Openness Initiative (USARO), and the Scientists Center for Animal Welfare, and locally serves as the treasurer for the Feral Cat Spay and Neuter Project and the Washington State Veterinary Medical Association. Thompson-Iritani received a DVM from Iowa State University and Ph.D from University of Washington.

#### **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 highconsequence 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.

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 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**

Simar Bajaj is a medical researcher, science journalist, and 2024 Marshall Scholar. He has published over 70 articles in peer-reviewed medical journals, including The New England Journal of Medicine, Lancet, Nature Medicine, and British Medical Journal on vaccine hesitancy, cigarette package labeling, and global health governance among other topics. Bajaj has also written over 50 journalistic articles, which have appeared in The Atlantic, TIME, Guardian, Washington Post, and NPR among other outlets. In addition to being named 40 Under 40 in Cancer, Simar has received several awards for his journalism, including from the Association of British Science Writers, Medical Journalists Association, and Online News Association. Most notably, Bajaj was awarded Science Story of the Year by the Foreign Press Association — sometimes known as the "Oscars of Journalism" — and the Eric and Wendy Schmidt Award for Excellence in Science Communication from the National Academies; he was the youngest winner in both of these organization's histories. Bajaj has previously worked in the Centers for Medicare and Medicaid Services, as well as consulted for the California Department of Public Health, Pennsylvania Department of Human Services, and U.S. Department of Health and Human Services' Office on Climate Change and Health Equity. Across all his scholarship, Bajaj is particularly fascinated with health policy and stigmatized diseases. Follow him on Twitter @SimarSBajaj.

Allyson J. Bennett is a developmental biopsychologist and Professor and Chair of the Psychology Department at UW-Madison. She is the Director of the Harlow Center for Biological Psychology and served as the Faculty Director of the UW-Madison Animal Program from 2015-2022. Professor Bennett's research expertise is in comparative studies of behavioral and neural development. A core part of her work reflects commitment to engaging in public education and dialogue about science. She is a senior editor and writer for the international animal research advocacy group, Speaking of Research and has been interviewed by journalists at Science, Nature, Mother Jones, Chronicle of Higher Education, Buzzfeed, and The Economist. She has served as President of the Society of Behavioral Neuroscience and Comparative Psychology, on the Board of Trustees of the Scientists Center for Animal Welfare, the Board of Scientific Affairs at the American Psychological Association (APA), and the Board of Directors for Public Responsibility in Medicine & Research. Professor Bennett has been recognized with awards and honors that include the Leadership in Science Advocacy Award from APA, the Charles River Ethics and Animal Welfare Lecturer, and the Synapse Award for Outstanding Neuroscience Outreach. Dr. Bennett earned a Ph.D. in Experimental Psychology from the University of Memphis and was a postdoctoral fellow at the National Institutes of Health.

Logan France is a board-certified laboratory animal veterinarian and the BRAD Program Director for Americans for Medical Progress. She graduated from the University of Texas at Austin in 2011 with a Bachelor of Arts degree in Plan II Honors and received her Doctorate of Veterinary Medicine in 2015 from Texas A&M University College of Veterinary Medicine. She then completed a post-doctoral fellowship in Laboratory Animal Medicine at Johns Hopkins School of Medicine and passed her American College of Laboratory Animal Medicine specialty board examination. Dr. France serves as an independent consultant in laboratory animal medicine with a particular interest in training program development and nonhuman primates. In May 2015, Dr. France received the Michael D. Hayre Fellowship in Public Outreach, awarded by Americans for Medical Progress (AMP). Through this, she founded Biomedical Research Awareness Day, also known as BRAD. The mission of Biomedical Research Awareness Day (BRAD) is to honor the animals required for the development of treatments and cures benefitting both humans and animals and to educate the public on their critical role. BRAD seeks to highlight the tremendous importance of animal studies and the commitment of research organizations to providing excellent animal care. It also seeks to build a community of research advocates and highlight careers in biomedical research and laboratory animal care and medicine. Dr. France currently serves as the BRAD Program Director for Americans for Medical Progress.

**Lana Grasser** was the 2022-2023 American College of Neuropsychopharmacology/Americans for Medical Progress-Biomedical Research Awareness Day Fellow. In this role, she created public-facing articles and social media to communicate on the role of animals in biomedical research. As a neuroscientist, she uses neuroimaging and psychophysiological measures to study trauma and related psychopathology in youth. Her

dissertation project, "Biomarkers of Risk and Resilience to Trauma in Syrian Refugee Youth", identified skin conductance response to trauma interview and fear potentiated startle as candidate biomarkers of trauma-related psychopathology in youth exposed to civilian war trauma and forced migration. Dr. Grasser has extended this work to query efficacy and underlying mechanisms of creative arts and movement therapies to address trauma-related psychopathology in families resettled as refugees of Syria, Iraq, the DRC, Afghanistan, and Ukraine. She has led efforts to bridge these programs to the virtual space for schoolchildren and to neighborhoods across Detroit for youth and caregivers. She is also passionate about science policy and advocacy, and is a member of the National Science Policy Network.

Jessica Y. Kwan is an incoming Resident on the Lab Animal Traditional service at the University of California, Davis School of Veterinary Medicine. Before becoming a veterinarian, she was involved in research for over a decade with an interest in disease ecology, particularly vector-borne diseases. Her master's thesis focused on characterizing the tick microbiome and its relationship to Lyme disease transmission in the western USA. After graduate school, she volunteered at a few wildlife rehabilitation centers in northern California, where she gained an appreciation for educating the general public about coexisting with backyard wildlife. During veterinary school, she had the honor of being a class president, working closely with school administration during the pandemic to facilitate transparent conversations surrounding the uncertainty of future curriculum. Also, she was instrumental in rebranding the Lab Animal Medicine Club into the Lab Animal and Research Club (LARC) to better connect lab animal veterinarians and researchers and revitalize interest in this nontraditional veterinary career path. Throughout her education, she has found fulfilment in providing mentorship, ranging from undergraduate students to new wildlife volunteers to veterinary students. She hopes to integrate her passions for lab animal medicine, research, public health, and mental wellbeing into a fulfilling public service career. She wants to create a supportive and collaborative environment where innovative research and quality animal welfare synergize. Kwan received a DVM from UC Davis School of Veterinary Medicine, a M.S. in biology at San Francisco State University, and a dual B.A. in Integrative Biology and Scandinavian from the University of California, Berkeley.

Lisa Hara Levin is the Alternatives Director for Coridea, LLC, a private equity investment firm that is a leading inventor in the medical device arena with a proven track record of generating innovative technology and converting it into high impact solutions for patients and high value returns for investors. Lisa's role is to identify non-animal alternatives to traditional whole animal-based models in discrete research areas of cardiology, renal physiology, and neuroscience. Prior to her relationship with Coridea, and in addition to related consulting activities, Lisa occupied senior-level clinical and administrative positions in some of the country's largest animal sheltering systems; as chief strategist for their medical programs and policy, Lisa maintained constructive relations with municipal and state government agencies, industry, public animal advocacy groups, and media outlets. Presently, her focus has enlarged to include how microphysiological systems may responsibly be integrated into safety testing and biomedical research. Lisa is a graduate of Cornell University, obtained her veterinary degree from the Tufts University School of Veterinary Medicine, and completed her postdoctoral research training at the Johns Hopkins University School of Medicine.

**Eva Maciejewski** is the director of communications and media relations at the Foundation for Biomedical Research. FBR is a 501c(3) nonprofit organization established in 1981 to promote public understanding and support for responsible and necessary animal research. FBR is headquartered in Washington, DC along with its sister organization, the National Association for Biomedical Research. Eva has been FBR's director of communications and media relations since July 2019. Her career in national health communications spans more than 15 years. It includes leadership roles in communications at the Coalition to Transform Advanced Care, the National Coalition for Women with Heart Disease, and Research!America. Eva has secured print and broadcast media placements and directed digital communication efforts as part of several association-led national public education campaigns.

**Paul McKellips** is a communications specialist. After 20-years in the film and television industry in Southern California, McKellips moved to Washington, DC after 9/11. He was a national TV news correspondent covering

the Pentagon, Supreme Court, and the State Department before joining the U.S. Department of Agriculture as Deputy Press Secretary. McKellips was detailed to the State Department and deployed to Iraq as a Global Outreach Officer and Crisis Communications expert. He was NATO's Public Affairs trainer to the Afghan National Army in Afghanistan. From 2007 to 2015, he served as the Executive Vice President, Public Affairs at the Foundation for Biomedical Research and then Press Secretary at FEMA. McKellips has written, directed, and produced five motion pictures and has written six novels.

Nicole Navratil is the president and founder of Sterling Biomedical Resources, LLC, which provides a wide range of business services including communications, change management, and strategy development. Their mission is to support small businesses in the biomedical industry offering new and innovative technologies and new models that will improve animal welfare, and improve translational data derived from animal studies. Nicole has a Master of Science in Biomedical Anthropology from The State University of New York at Binghamton, where she focused on the interaction of society and culture on public health, mental health, interpersonal violence, and neurological diseases. She also has a Master of Business Administration in Organizational Management from The State University of New York at Oswego where she focused on organizational culture, change management, and organizational communication. Prior to founding Sterling Biomedical Resources, Nicole worked for Marshall BioResources in several roles, with her primary focus on evaluating the value of alternative animal models for drug development, such as miniature pigs and ferrets; as well as providing consultation and training for companies incorporating new species into their programs. She also served as a scientific member of the Marshall BioResources IACUC for 10 years, as well as the IACUC Vice Chair for 2 years. Nicole has also served as a member of the US Animal Research Openness Initiative Steering Committee since its inception, and she is chair of the USARO Survey Committee. Nicole has published several papers and resources on the care and use of large animal models for drug development and disease research. Nicole is very passionate about animal welfare and creating understanding about the use of animals in science.

**Dr. Matthew Rassette** is a laboratory animal veterinarian with over 15 years of experience in both academic and government settings. He is currently a veterinary medical officer working with the Department of Veterans Affairs.

Adam Shriver is the Director of Wellness and Nutrition at the Harkin Institute for Public Policy where he works on policy initiatives that continue longtime Senator Tom Harkin's legacy of bringing a progressive focus to prevention, wellness, medical research, and food and drug safety. He has a Ph.D. from the Philosophy-Neuroscience-Psychology Program at Washington University in St. Louis and previously has held appointments at the University of Pennsylvania, the University of British Columbia, and Oxford University. Much of Adam's research has focused on the intersection of ethics and cognitive science and he has written multiple articles about human well-being and animal welfare. To this end, Adam has written about the relationship between pain and pleasure, the legal and ethical questions that arise from the search for a neural signature of pain in humans, and the capacity for suffering across different species. He also has research examining the ethics of using genetic modifications in livestock. Adam is also a co-editor on the book Neuroethics and Nonhuman Animals.

**Bill Yates, PhD,** is Vice-Chancellor for Research Protections and Professor of Otolaryngology and Neuroscience at the University of Pittsburgh. In his administrative role, he oversees all research regulatory functions at Pitt (including export control, conflict of interest, research integrity, human stem cell oversight, biosafety, and radiation safety), and additionally is institutional official for both animal and human subject research. Dr. Yates previously served as Pitt's IACUC Chair. He is also an active investigator and has received continuous R01 grant support since 1990 from the National Institutes of Health to study vestibulo-autonomic interactions in animal models. Dr. Yates has published over 130 peer-reviewed articles, as well as numerous book chapters. Dr. Yates is currently editor-in-chief of the journal Experimental Brain Research, published by Springer-Nature, and was previously editor-in-chief of the Journal of Neurophysiology. He is a

Board Member for Americans for Medical Progress and the Federation of American Societies for Experimental Biology.

#### **STATEMENT OF TASK**

The National Academies of Sciences, Engineering, and Medicine will appoint a planning committee to organize and convene a workshop directed towards scientists to share and discuss tools and approaches to improve communication about scientific research with animals. The workshop will specifically consider how to enhance public understanding of (1) the scientific method related to working with animals, (2) the care and use of animals when the scientific research requires work with animals, and (3) the ongoing contributions of research with animals to improve the health and quality of life for both animals and humans.

Presentations and discussions may include the following topics:

- Current understanding of effective communication methods for scientists to engage more successfully with nonexperts; case examples could include addressing the simple and false deficit model of science communication as
  it applies to animal research<sup>1</sup> as well as examples from other fields of research where public debate has ensued
  for a variety of reasons (e.g. climate change; evolution; genetically modified food sources).
- Systemic changes in the integration of information from scientists by journalists, filmmakers, and others through the use of new, diverse communication media and advanced technologies for different types of public audiences.
- Ways in which "successful" communications can be assessed.
- Specific aspects of animal research that are typically challenging for the public to understand, for example:
  - o context, applications, and value of animal research activities;
  - o ethical and regulatory requirements of humane animal care and use;
  - o new approach methodologies (e.g., in silico models, organs-on-a-chip) that can replace direct animal research in specific situations, as well as their limitations;
  - o interpretation of the results and presentation of data and uncertainty from animal research;
  - o characteristics of disinformation and misinformation regarding animal research.

Facilitated breakout sessions may be used to engage speakers and workshop registrants in discussions about communication and dissemination tools, as well as approaches for engaging with the general public to increase the understanding of and confidence in scientific research with animals.

The workshop presentations and discussions will be documented in a workshop proceedings authored by rapporteurs(s) in accordance with National Academies guidelines.

[1] National Academies of Sciences, Engineering, and Medicine 2017. Communicating Science Effectively: A Research Agenda. Washington, DC: The National Academies Press. https://doi.org/10.17226/23674, p. 21.

#### **NATIONAL ACADEMIES' STAFF**

Robin Schoen, Co-Director Kavita Berger, Co-Director

Nia Johnson, Program Officer Jessica De Mouy, Research Associate Mariah Waul, Program Assistant Layla Garyk, Program Assistant Jeanne Aquilino, Financial Business Partner