

25
YEARS

ANIMAL WELFARE

AND SCIENTIFIC RESEARCH

1985 TO 2010, OCTOBER 25 TO 26

**Recognizing 25 Years
of Improving Animal Welfare,
Advancing Science**

October 25 - 26, 2010
Bethesda North Marriott Hotel
and Convention Center
Bethesda, MD

ANIMAL WELFARE AND SCIENTIFIC RESEARCH: 1985 TO 2010

Sponsored by:



IACUC 101™



Funding for this conference was made possible in part by the National Institutes of Health (NIH), Office of Laboratory Animal Welfare (OLAW) and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Animal Care.

The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the U.S. Government; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

WELCOME

Individuals engaged in biomedical research continually strive toward a common goal—improving human and animal health. Occasionally, it is important to come together to consider milestones in that progress. We are here today to recognize 25 years of improving animal welfare and advancing biomedical research. **Animal Welfare and Scientific Research: 1985 to 2010** acknowledges **Animal Welfare and Scientific Research**, a symposium held by NIH in 1984 [see NIH Record, page 6]. Subsequent to that historic symposium, a number of important events occurred in 1985:

- The *U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research and Training* (U.S. Government Principles) were developed and promulgated by the Interagency Research Animal Committee (IRAC). All U.S. government agencies that use animals in research adopted the principles and conduct their animal activities in compliance with their guidance. [see U.S. Government Principles, page 10]
- The *Health Research Extension Act of 1985* (HREA), “*Public Law 99-158 Animals in Research*” was passed. This law provides the statutory mandate for the implementation of the *Public Health Service Policy on Humane Care and Use of Laboratory Animals* (PHS Policy). Included in the HREA is the requirement for Institutional Animal Care and Use Committees (IACUC) to provide local oversight for PHS supported animal research activities.
- Amendments to the Animal Welfare Act were passed by Congress requiring the local review and oversight of animal research by IACUCs.

A symposium to acknowledge laws and policies does not sound like it would be very interesting. Yet an exciting and important story is woven into the fabric of the policies, guidelines, and regulations that guide oversight of the welfare of animals used in federally-funded research. It is the story of the critical contribution of research animal models to the acceleration of biomedical discovery and to the improvement of human and animal health.

Fulfilling animal welfare protections according to the requirements of the PHS Policy, the U.S. Government Principles, and the Animal Welfare Act and Regulations is now, and has been for the last 25 years, a shared effort between the NIH, USDA, federally supported scientific investigators, and research institutions. These have been years of growth and learning [see Timeline, page 8]. OLAW, Animal Care, and IACUC 101 have joined together, in concert with support from federal agencies, NIH Institutes and Centers, and our non-profit and business colleagues to reflect on this milestone and consider the future.

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ANIMAL WELFARE AND SCIENTIFIC RESEARCH: 1984 SYMPOSIUM

The 2010 symposium will commemorate the first symposium on Animal Welfare and Scientific Research held by NIH in 1984. The 1984 symposium was the opening event in a wide-ranging education program on research animal welfare sponsored by the NIH.

[NIH Record, April 24, 1984]

The NIH Record

U.S. Department
of Health
and
Human Services

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1984
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National
Institutes
of
Health

Researchers, Animal Specialists, Activists Join In NIH Symposium on Proper Use of Animals

By Jim Doherty

Some 450 biomedical researchers, laboratory animal specialists, ethicists, public officials and animal protection activists took part in a 2-day Symposium on Animal Welfare and Scientific Research in Washington, D.C., April 11-12.

The symposium was the opening event in a wide-ranging education program on research animal welfare sponsored by the National Institutes of Health. Goal of NIH's continuing education program is to combine both scientific and humane considerations in animal research.

NIH's Office of Protection for Research Risks planned the symposium and will direct the ensuing education program.



Symposium speakers at opening session: (l to r) Dr. Donald F. Fredrickson, former NIH Director who served as keynote; Dr. James B. Wyngaarden, current NIH Director; Dr. Edward N. Brandt Jr., Assistant Secretary for Health; and Dr. Charles McCarthy, director of the Office for Protection from Research Risks, who served as symposium chairman.

ANIMALS

(Continued from Page 1)

OPRR oversees procedures to ensure that Public Health Service award recipients who use animals in their research meet requirements of PHS policy on the humane care and use of animals.

In the symposium's opening session, Dr. James B. Wyngaarden, NIH Director, outlined procedures for approving NIH proposals and applications for projects involving animals and described current efforts to document the fact that PHS policies are implemented.

"The Federal Government cannot, on its own, adequately deal with the mounting pressure on this issue," he said. "It is the responsibility of the institutions and investigators involved to become more active in responding to questions about the need for animals in research and appropriate safeguards."

Dr. Edward N. Brandt Jr., Assistant Secretary for Health, told those attending: "The way we care for and use animals in research must be consistent with our lifesaving and life-protecting mission." He announced a proposed revision in the PHS Policy for Humane Care and Use of Animals and called for wide public comment.

In his keynote address, former NIH Director, Dr. Donald S. Fredrickson, reviewed some of the most striking modern medical advances that have depended on animals, including the heart-lung machine and viral vaccines—especially polio vaccine.

To make good public policy decisions on use of research animals, Dr. Fredrickson said, society needs to be familiar with scientific methods and objectives; scientists need to provide convincing assurances that their methods are humane and responsible; and the whole community needs to seek an ethical frame "for judging the fruits of the quest for understanding in a fashion that does not retard the search itself."

The second session of the symposium opened with a discussion of proposed changes in the PHS policy on animal welfare by Dr. William F. Raub, NIH Deputy Director for Extramural Research and Training. The proposed policy has been published as a special edition of the *NIH Guide for Grants and Contracts* (Vol. 13, No. 5, Apr. 5, 1984).

Dr. Raub explained that the new policy resulted, in part, from 10 site visits to randomly selected awardee institutions. It provides advantages to institutions that have approval from the American Association for Accreditation of Laboratory Animal Care (AAALAC).

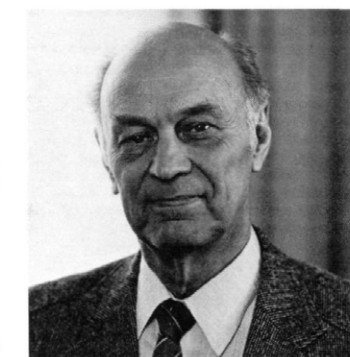
Scientists are in the best position to promote good animal care practices, Dr. Raub said, and the vast majority are well motivated. The proposed changes will make it easier to know exactly what is expected, he said.

In a panel on clinical medicine moderated by television broadcaster John Charles Daly, Dr. Lawrence H. Cohn, director of Cardiac Surgery Research at Brigham and Women's Hospital, Boston, described a long series of cardiac surgery advances based on the use of large animals.

He presented his patient Theresa Rye, R.N., who had open-heart surgery in 1982 at age 26 for a rare congenital heart defect called "scimitar syndrome," which causes an



Ms. Rye of Boston, had her heart stopped for 30 minutes during an operation.



Dr. Karl Johan Öbrink of Uppsala, Sweden, summarized the animal symposium from an international viewpoint.

abnormal left-to-right shunting of blood.

If not corrected, the condition leads inevitably to pulmonary artery hypertension and almost certain death.

"My operation was unique," Ms. Rye said. "Part of my surgery required the heart-lung bypass machine to be turned off. It was a chilling experience for me to learn my body was frozen to 15 degrees centigrade and that I had been clinically dead for 30 minutes during the operation."

"I hope that legislators, lobbyists, and research agencies appreciate that these kinds of procedures would be impossible had there not been an animal research model."

The role of animals in the development of transplantation was described by Dr. Stuart W. Jamieson, director of the Cardiac Surgery Experimental Laboratories at Stanford University Medical Center. He presented his patient, Samuel S. Stark, who was diagnosed in 1980 as having primary pulmonary hypertension and by 1983 was near death.

Mr. Stark received a heart and lung transplant at Stanford on June 2, 1983. "After 53 days in the hospital and 2½ months as an outpatient, I'm now back home and working full time."

Dr. Earl H. Wood, emeritus professor of physiology and medicine at Mayo Medical School in Rochester, Minn., cited three examples of necessary human and animal experimentation from his own career: solving the blackout problem among fighter pilots in World War II; solving the loss of oxygen content in arterial blood of the early astronauts; and the development of a high speed computer-based tomographic system designed to produce three-dimensional noninvasive images of the heart, lung and blood in motion. The last two projects required animal models prior to human experiments.

The final member of the panel, Dr. Clarence A. Rawlings, professor of small animal surgery at the University of Georgia School of Veterinary Medicine, illustrated the benefits of animal research for animals other than humans.

Congressman Doug Walgren (Pa.) encouraged the scientific community to go forward under the leadership of the NIH in pursuit of high standards of laboratory animal care.

In a panel chaired by Dr. Andrew N. Rowan, Tufts University School of Veterinary Medicine, varying views were presented on current measures of using and caring for research animals.

Dr. Constance Kagan of the Animal Political Action Committee described the approaches of three main groups in the animal protection movement: those who are concerned about animal welfare; utilitarians who hold that each case of proposed animal use must be evaluated separately; and those who generally believe that the use of animals in research and testing should immediately cease.

Henry Spira, director of the Coalitions to Abolish the LD50 and Draize Tests, explained his activities as an attempt to attack "a universe of pain and death" at its most vulnerable spots.

Christine G. Stevens, president of the Animal Welfare Institute, presented arguments for strengthening the Animal Welfare Act.

Dr. Karl Johan Öbrink of the Biomedical Center, Uppsala, Sweden, summarized the symposium from an international viewpoint.

He stressed that good animal care means better science, and that our knowledge of living things is still small, despite the recent progress. The only way to biomedical knowledge is to study life itself, he said. "Studies in an intact human or animal give you information that cannot be obtained in any other way. Studies at the various biological levels complement each other, and one level cannot give the same information as the other."

Despite all laws and regulations on this subject, animal experimentation will always involve personal judgments of appropriateness, Dr. Öbrink said. Some kind of review committee with scientific and nonscientific membership is necessary, he indicated. □

There are two things we must resign ourselves to on pain of finding life unbearable: the ravages of time and human injustice.—Nicholas Chamfort

THE HISTORY OF ANIMAL WELFARE POLICY, REGULATION, AND GUIDANCE

Timeline

The history of animal welfare policy in the United States began well before 1985. The following timeline provides some of the key events that shaped or influenced the Health Research Extension Act of 1985, the Animal Welfare Act Amendments of 1985, and the U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training. The resulting authority from these laws and principles for oversight of animal care and use programs is vested in Institutional Animal Care and Use Committees (IACUC) to ensure the humane care and use of animals used in research.

1950	First meeting of the Animal Care Panel.
1953	Institute of Animal Resources (IAR) established within the National Research Council
1956	IAR renamed Institute of Laboratory Animal Resources
1963	First edition of the Guide for the Care and Use of Laboratory Animals (<i>Guide</i>) developed by the Animal Care Panel
1965	Incorporation of the American Association for the Accreditation of Laboratory Animal Care (AAALAC)
1966	Congress passed the Laboratory Animal Welfare Act (PL 89-544) and the USDA was named the responsible agency
1967	Animal Care Panel changed its name to the American Association for Laboratory Animal Science (AALAS)
1971	NIH Policy on Humane Care and Use of Laboratory Animals for PHS Supported Institutions issued
	USDA promulgated standards known as Subpart F, Stolen Animals (AWA)
1973	First Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals issued
1974	Public Responsibility in Medicine and Research (PRIM&R) established
1976	Food and Drug Administration proposed Good Laboratory Practices (GLP) regulations
1979	PHS Policy required each animal-using grantee institution to have a PHS Assurance and a committee to maintain oversight of its animal care program
	USDA promulgated standards known as Subpart E, Identification of Animals (AWA)
	Good Laboratory Practices regulations became law
1982	First PRIM&R Animal Care and Use meeting held
1983	Memorandum of Understanding established among USDA, FDA and NIH relating to laboratory animal care and welfare
1984	Scientists Center for Animal Welfare established and held its first workshop in Baltimore, MD
	FDA proposes amendments to GLP regulations
1985	U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research and Training promulgated
	Health Research Extension Act (P.L.99-158) passed by Congress
	Animal Welfare Act Amendments passed by Congress
1986	Applied Research Ethics National Association (ARENA) established
	Animal Welfare Information Center (AWIC) established as part of the USDA National Agricultural Library as provided in the 1985 AWA amendments

	Report of the American Veterinary Medical Association (AVMA) Panel on Euthanasia published
	PHS Policy revised to include the Health Research Extension Act
1987	FDA issued final rule amending GLP regulations
1989	USDA promulgated regulations (known as Parts 1 and 2) implementing the 1985 AWA Amendments
1990	Office for Protection from Research Risks (OPRR) structure was changed to establish a Division of Animal Welfare
	USDA promulgated standards known as Subpart B, Registration and Subpart C, Research Facilities (AWA)
1991	USDA promulgated standards known as Part 3. In addition, amendments were made to Part 2: Regulations in Subpart A, Licensing and Subpart D, Attending Veterinarian and Adequate Veterinary Care (AWA)
1992	First Institutional Animal Care and Use Committee Guidebook was developed by a committee under the auspices of the Applied Research Ethics National Association (ARENA) and OPRR
	Animal Enterprise Protection Act of 1992 passed by Congress
1995	Memorandum of Understanding updated among USDA, FDA and NIH concerning laboratory animal welfare
1996	7th Edition of the Guide for the Care and Use of Laboratory Animals revised by an ILAR committee and published by the NRC
	AAALAC became the Association for the Assessment and Accreditation of Laboratory Animal Care International
1997	National Air and Space Agency (NASA) released NASA Principles for the Ethical Care and Use of Animals
1998	IACUC 101, in conjunction with ARENA, debuted in Boston
2000	OPRR Division of Animal Welfare was separated from OPRR and became the Office of Laboratory Animal Welfare (OLAW), NIH
	Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) designated as permanent interagency committee
2001	2000 Report of the AVMA Panel on Euthanasia published
2002	ARENA/OLAW Institutional Animal Care and Use Committee Guidebook, Second edition, published
	Animal Welfare Act Amendment modified the definition of animals to exclude rats, mice, and birds bred for use in research
	Memorandum of Understanding established between the Veterans Administration and NIH concerning laboratory animal welfare
	PHS Policy revised to permit verification of IACUC approval for competing applications subsequent to peer review but prior to award
2006	Congress passed the Animal Enterprise Terrorism Act prohibiting the use of force, violence, or threats for the purpose of damaging or interfering with the operations of an animal enterprise
2007	AVMA Guidelines on Euthanasia updated and renamed
2010	8th Edition of the Guide for the Care and Use of Laboratory Animals revised by an ILAR committee

Modified from Institutional Animal Care and Use Committee Guidebook (Applied Research Ethics National Association/Office of Laboratory Animal Welfare) 2nd edition. pp. 3-4 (US Department of Health and Human Services, Washington, DC, 2002, reprinted 2008).

THE U.S. GOVERNMENT PRINCIPLES

The U.S. Government Principles were promulgated in 1985 by the Interagency Research Animal Committee (IRAC) and adopted by U.S. Government agencies that either develop requirements for or sponsor procedures involving the use of vertebrate animals. The Principles were incorporated into the PHS Policy in 1986 and continue to provide a framework for conducting research in accordance with the Policy and are the foundation for humane care and use of laboratory animals in the United States.

U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training

The development of knowledge necessary for the improvement of the health and well-being of humans as well as other animals requires *in vivo* experimentation with a wide variety of animal species. Whenever U.S. Government agencies develop requirements for testing, research, or training procedures involving the use of vertebrate animals, the following principles shall be considered; and whenever these agencies actually perform or sponsor such procedures, the responsible Institutional Official shall ensure that these principles are adhered to:

I. The transportation, care, and use of animals should be in accordance with the Animal Welfare Act (7 U.S.C. 2131 et. seq.) and other applicable Federal laws, guidelines, and policies.*

II. Procedures involving animals should be designed and performed with due consideration of their relevance to human or animal health, the advancement of knowledge, or the good of society.

III. The animals selected for a procedure should be of an appropriate species and quality and the minimum number required to obtain valid results. Methods such as mathematical models, computer simulation, and *in vitro* biological systems should be considered.

IV. Proper use of animals, including the avoidance or minimization of discomfort, distress, and pain when consistent with sound scientific practices, is imperative. Unless the contrary is established, investigators should consider that procedures that cause pain or distress in human beings may cause pain or distress in other animals.

V. Procedures with animals that may cause more than momentary or slight pain or distress should be performed with appropriate sedation, analgesia, or anesthesia. Surgical or other painful procedures should not be performed on unanesthetized animals paralyzed by chemical agents.

VI. Animals that would otherwise suffer severe or chronic pain or distress that cannot be relieved should be painlessly killed at the end of the procedure or, if appropriate, during the procedure.

VII. The living conditions of animals should be appropriate for their species and contribute to their health and comfort. Normally, the housing, feeding, and care of all animals used for biomedical purposes must be directed by a veterinarian or other scientist trained and experienced in the proper care, handling, and use of the species being maintained or studied. In any case, veterinary care shall be provided as indicated.

VIII. Investigators and other personnel shall be appropriately qualified and experienced for conducting procedures on living animals. Adequate arrangements shall be made for their in-service training, including the proper and humane care and use of laboratory animals.

IX. Where exceptions are required in relation to the provisions of these Principles, the decisions should not rest with the investigators directly concerned but should be made, with due regard to Principle II, by an appropriate review group such as an institutional animal care and use committee. Such exceptions should not be made solely for the purposes of teaching or demonstration.

*For guidance throughout these Principles, the reader is referred to the *Guide for the Care and Use of Laboratory Animals* prepared by the Institute of Laboratory Animal Resources, National Academy of Sciences.

PRE CONFERENCE EVENTS

October 24, 2010

IACUC 101 Workshop

IACUC 101 is a full day didactic and interactive training course for IACUC members and administrators, trainers, veterinarians, animal care staff and program personnel, researchers, regulatory personnel, and others interested in IACUC roles and responsibilities. The program is delivered by faculty renowned for their expertise in IACUC issues and program development. The faculty includes representatives from private and academic biomedical research institutions, AAALAC, USDA, and OLAW. Sessions provide a basic, yet comprehensive overview of the laws, regulations, and policies that govern the humane care and use of laboratory animals supplemented with examples and possible approaches for successful and effective administration. Students have the opportunity to practice what they have learned when they are challenged to consider, deliberate, and develop action plans for a variety of potential IACUC scenarios. An extensive resource manual containing copies of relevant laws, regulations, policies, and guidelines will be provided.

AWIC Workshop:

Meeting the Information Requirements of the Animal Welfare Act

The Animal Welfare Information Center (AWIC) presents a one day workshop for individuals who are responsible for providing information to meet the requirements of the Animal Welfare Act (AWA). This workshop is targeted for principal investigators, members of IACUCs, information providers, administrators of animal use programs, and veterinarians. All participants will receive a resource manual. Each participant must bring their own wireless enabled laptop for use during the workshop. The objectives of the workshop are to provide:

- An overview of the AWA and its information requirements;
- A review of the alternatives concept;
- A comprehensive introduction to the National Agricultural Library (NAL), AWIC and other organizations;
- Instruction on the use of existing information databases/networks; and
- On-line database searching experience.

Continuing Education

Pre-conference workshops and all sessions of the Symposium were reviewed and approved by the American Association of Veterinary State Boards (AAVSB) RACE program for continuing education credits in jurisdictions which recognize AAVSB RACE approval. Please contact the AAVSB RACE program at race@aavsb.org should you have any comments/concerns regarding this program's validity or relevancy to the veterinary profession. The Symposium was approved for 6.5 hours continuing education credits per day, the Keynote Address for 1.0 hour, IACUC 101 for 6.5 hours and the AWIC Workshop for 6.5 hours.

The AWIC Workshop has been approved for continuing education (CE) units by the Medical Libraries Association (MLA).

ANIMAL WELFARE AND SCIENTIFIC RESEARCH: 1985 TO 2010

October 25, 2010 | Animal Welfare

PROGRAM

7:00am-8:30am	Registration (FOYER, SALON D)
7:00am-8:30am	Continental Breakfast (SALON E-H)
8:30am-8:45am	Welcome (SALON A-D) Patricia Brown, Office of Laboratory Animal Welfare, NIH Chester Gipson, Animal Care, Animal and Plant Health Inspection Service, USDA
8:45am-9:00am	Introduction (SALON A-D) Nelson Garnett, Office of Laboratory Animal Welfare, NIH, retired
9:00am-10:10am	Animal Housing Facilities (SALON A-D) Moderator: Taylor Bennett, National Association for Biomedical Research Where We Came From - Betty Goldentyer, Animal Care, Animal and Plant Health Inspection Service, USDA and Christian Newcomer, Association for Assessment and Accreditation of Laboratory Animal Care International How We Got There - Laretta Gerrity, University of Alabama and Willie McCullough, National Center for Research Resources, NIH Where We Are Today - Steven Leary, Washington University
10:10am-10:30am	Discussion (SALON A-D)
10:30am-10:50am	Break
10:50am-12:00noon	Institutional Animal Care and Use Committees (SALON A-D) Moderator: James Taylor, Office of Animal Care and Use, NIH, retired Formative Years - Ralph Dell, Institute for Laboratory Animal Research, retired Best Practices - Kathryn Bayne, Association for Assessment and Accreditation of Laboratory Animal Care International Future - Jerry Collins, Yale University and Office of Laboratory Animal Welfare, NIH
12:00noon-12:20pm	Discussion (SALON A-D)
12:20pm-1:20pm	Lunch (SALON E-H) Continuing Education Day one of the Symposium was approved for 6.5 hours AAVSB RACE credits and the Keynote Address for 1.0 hours AAVSB RACE credits.

1:20pm-2:15pm	Education and Training (SALON A-D) Moderator: Mary Lou James, IACUC 101 Series Conmed: The First Educational Forum - Steele Mattingly, University of Cincinnati, retired Role of Education in Self-Evaluation - Susan Silk, Office of Laboratory Animal Welfare, NIH
2:15pm-2:35pm	Discussion (SALON A-D)
2:35pm-2:55pm	Break
2:55pm-4:25pm	Veterinary Care (SALON A-D) Moderator: Patricia Brown, Office of Laboratory Animal Welfare, NIH Where We Were - Gerald Van Hoosier, University of Washington, retired Current Standard of Care and Technologies: Non Rodents - Michael Talcott, Washington University Current Standard of Care and Technologies: Rodents - William White, Charles River Laboratories Improving Animal Housing and Welfare - Brian Hare, Duke University
4:25pm-4:45pm	Discussion (SALON A-D)
4:45pm-5:15pm	Synergy of Working Together (SALON A-D) John Miller, Office for Protection from Research Risks, NIH, retired and Dale Schwindamin, USDA, retired
5:15pm-6:30pm	Cocktails and Networking (FOYER, SALONS E)
6:30pm-8:30pm	Keynote Address (SALON F-H) Standing on the Shoulders of Giants Charles McCarthy, Office for Protection from Research Risks, NIH, retired <i>"We are like dwarfs sitting on the shoulders of giants. We see more, and things that are more distant, than they did, not because our sight is superior or because we are taller than they, but because they raise us up, and by their great stature add to ours."</i> [John of Salisbury Metalogicon, 1159] Panel Discussion (SALON F-H) Reflections on IRAC and the U.S. Government Principles Robert Whitney, PHS, retired and Thomas Wolfle, ILAR, retired Dinner (SALON F-H) Sponsored by AAALAC International

ANIMAL WELFARE AND SCIENTIFIC RESEARCH: 1985 TO 2010

October 25, 2010 | 6:30 – 8:30 pm

Keynote Address

Standing on the Shoulders of Giants

Dr. Charles McCarthy PhD

Dr. McCarthy served as Director of the Office for Protection from Research Risks (OPRR) from 1978-1992. In that role he was responsible for development, promulgation, and implementation of the PHS Policy and



the federal regulations for the protection of human research subjects throughout the United States and in approximately 80 nations worldwide. In 1999, the Scientists Center for Animal Welfare (SCAW) awarded him the Harry C. Rowsell Award for Contributions to Science and the Humane Care and Use of Animals. In 2003, he received the Public Responsibility in Medicine and Research (PRIM&R) Lifetime Achievement Award. He was a Senior Research Fellow at the Kennedy Institute of Ethics, Georgetown University and served on the Board of Directors of the Institute for Laboratory Animal Research (ILAR) of the National Research Council, National Academy of Sciences. He is former Vice President of the Board of Trustees of SCAW and a Fellow of the Hastings Center. He has testified before the National Bioethics Advisory Committee; and several subcommittees

of the U.S. House of Representatives and Senate. He currently serves in the Office of Education and Compliance Oversight at Virginia Commonwealth University.

Ordained a Catholic priest in 1956 as a member of the Paulist Fathers, Dr. McCarthy was laicized in 1971. Before moving to the National Institutes of Health in 1971, Dr. McCarthy taught philosophy and political science at The Catholic University of America and The George Washington University in Washington, DC.

Panel Discussion

Reflections on IRAC and the U.S. Government Principles

Robert Whitney, DVM and Thomas Wolfle, DVM, PhD

In 1985, the Interagency Research Animal Committee (IRAC) promulgated the U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research and Training. These Principles were subsequently incorporated into the 1986 PHS Policy, and remain in effect today as a model for federal agencies in developing specific agency policies for the use of animals.

The IRAC was appointed on July 7, 1983 by the Assistant Secretary for Health as an outgrowth and expansion of the Interagency Primate Steering Committee. This committee is a focal point for federal agencies to discuss issues involving all animal species needed for biomedical research and testing, especially their care, use, and conservation. Responsibilities include promoting information exchange, contributing to developing unified federal policies, coordinating animal programs between agencies, and representing the U.S. Government on international issues. The committee is made up of representatives of federal agencies that use or require the use of experimental animals.

NEXT GENERATION TRAVEL AWARDS

Nine outstanding veterinary students and residents in laboratory animal medicine have been selected to receive the Next Generation Travel Award. The awardees were selected based on merit and interest in laboratory animal medicine and animal welfare. Each awardee received complementary registration and a stipend to cover their travel expenses. Thank you to IACUC 101, NIEHS, and OLAW for supporting the Next Generation Travel Awards. Please join us in congratulating these outstanding young colleagues!

CONGRATULATIONS!

IACUC 101 Awardee

Diane Guerrero is enrolled in the dual PhD/DVM program at Tufts University School of Medicine and Tufts University Cummings School of Veterinary Medicine. Additionally, she is seeking an MS degree in Laboratory Animal Medicine at Tufts University and is currently in residence at the NIH.

National Institute of Environmental Health Science Awardees

Jennifer Lofgren, DVM is enrolled in a Postdoctoral Training Program in the Division of Comparative Medicine at the Massachusetts Institute of Technology. Dr. Lofgren was awarded the DVM in 2007 and MS of Comparative Biomedical Sciences in 2005 by Tufts University Cummings School of Veterinary Medicine.

Quynh Tien Ngoc Tran, DVM, PhD is currently a fellow in the Department of Veterinary Medicine and Surgery at the University of Texas, MD Anderson Cancer Center. Dr. Tran was awarded the DVM in 2007 and PhD in 2009 from Texas A&M University.

Ian Hannigan is currently enrolled in the VMD program at the University of Pennsylvania School of Veterinary Medicine.

Gillian Braden-Weiss is currently enrolled in the VMD program at the University of Pennsylvania School of Veterinary Medicine.

Office of Laboratory Animal Welfare Awardees

James Finlay, DVM is currently enrolled in a combined Residency/PhD program at the City of Hope/Beckman Research Institute and University of Southern California. Dr. Finlay was awarded the DVM in 2009 by Michigan State University College of Veterinary Medicine.

Anna Hampton, DVM is currently enrolled in the Postdoctoral Clinical Training Program in Laboratory Animal Medicine at the University of Michigan Medical School. Dr. Hampton was awarded the DVM in 2006 by North Carolina State University College of Veterinary Medicine.

Nicole Monts de Oca, DVM is currently enrolled in the Laboratory Animal Medicine Postdoctoral Training Program at the Gulf Coast Consortium/University of Texas, MD Anderson Cancer Center. Dr. Monts de Oca was awarded the DVM in 2010 by Cornell University College of Veterinary Medicine.

Michael Mahmoud Esmail is currently enrolled in the VMD program at the University of Pennsylvania School of Veterinary Medicine.

ANIMAL WELFARE AND SCIENTIFIC RESEARCH: 1985 TO 2010

October 26, 2010 | Scientific Research

PROGRAM

7:00am-8:30am	Registration (FOYER, SALON D)
8:00am-9:00am	Continental Breakfast (SALON E-H)
8:30am-8:35am	Welcome (SALON A-D) Susan Silk, Office of Laboratory Animal Welfare, NIH
8:35am-8:45am	Use of Animals in NIH Supported Biomedical Research (SALON A-D) Sally Rockey, Office of Extramural Research, NIH
8:45am-9:15am	Global Impact of Animal Research on Infectious Diseases: A CDC Perspective (SALON A-D) Tanja Popovic, Centers for Disease Control and Prevention
9:15am-9:45am	Use of Animals in the Development of Medicines and Devices for Humans and Animals (SALON A-D) David Jacobson-Kram, Food and Drug Administration
9:45am-10:00am	Discussion (SALON A-D) Moderator: Susan Silk, Office of Laboratory Animal Welfare, NIH
10:00am-10:15am	Break
10:15am-10:45am	Animal Models and Basic Science: Bench to Bedside (SALON A-D) Richard Nakamura, National Institute of Mental Health, NIH
10:45am-11:15am	Animal Models in Immunology and Transplant Medicine (SALON A-D) Linda Cendales, Emory University
11:15am-11:45am	Animal Models Facilitate Rapid Responses to Emerging Infectious Diseases (SALON A-D) Michael Kurilla, National Institute of Allergy and Infectious Diseases, NIH
11:45am-12:00noon	Discussion (SALON A-D) Moderator: Richard Nakamura, National Institute of Mental Health, NIH

12:00noon-1:00pm	Lunch (SALON E-H)
1:00pm-1:30pm	Challenges of an Aging Brain (SALON A-D) Stuart Zola, Yerkes National Primate Research Center
1:30pm-2:00pm	Genetic Vulnerabilities Associated with Cancer and Aging (SALON A-D) Nancy Hopkins, Massachusetts Institute of Technology
2:00pm-2:30pm	Toward a Better Understanding of Depression, Schizophrenia, and Autism (SALON A-D) Larry Young, Yerkes National Primate Research Center
2:30pm-3:00pm	Insight into Brain Development from Animal Vocalization Studies (SALON A-D) Erich Jarvis, Duke University
3:00pm-3:15pm	Discussion (SALON A-D) Moderator: Stuart Zola, Yerkes National Primate Center
3:15pm-3:30pm	Break
3:30pm-3:35pm	Introduction (SALON A-D) Jerry Collins, Yale University and Office of Laboratory Animal Welfare, NIH
3:35pm-4:05pm	Research Animal Welfare: Looking Backward to Looking Forward (SALON A-D) Susan Lederer, University of Wisconsin
4:05pm-4:45pm	Standing up for Science (SALON A-D) Ways Individual Scientists and Clinicians Can Support Animal Research J. David Jentsch, University of California, Los Angeles The Need for Public Dialogue Dario Ringach, University of California, Los Angeles
4:45pm-5:15pm	Panel Discussion (SALON A-D) Moderator: Jerry Collins, Yale University and Office of Laboratory Animal Welfare, NIH Continuing Education Day two of the Symposium was approved for 6.5 hours AAVSB RACE credits.

ANIMAL WELFARE AND SCIENTIFIC RESEARCH: 1985 TO 2010

Speaker List

Kathryn Bayne, PhD, DVM, DAACLAM

Global Director, Association for Assessment and Accreditation of Laboratory Animal Care International

B. Taylor Bennett, DVM, PhD

Senior Scientific Advisor,
National Association for Biomedical Research

Patricia A. Brown, VMD, MS, DAACLAM

Director, Office of Laboratory Animal Welfare,
National Institutes of Health

Linda Cendales, MD

Assistant Professor of Surgery, Division of Plastic and Reconstructive Surgery and Division of Transplantation, Department of Surgery, Emory University School of Medicine and Director, Vascularized Composite Allotransplantation and the Laboratory of Microsurgery, Emory Transplant Center

Jerry Collins, PhD

Professor of Anesthesiology, Yale University School of Medicine and IPA, Division of Policy and Education, Office of Laboratory Animal Welfare,
National Institutes of Health

Ralph B. Dell, MD

Director, Institute for Laboratory Animal Research, retired

Nelson L. Garnett, DVM, DAACLAM

Office of Laboratory Animal Welfare,
National Institutes of Health, retired

Lauretta W. Gerrity, DVM

Associate Vice President for Research Operations and Compliance and Professor, Division of Comparative Medicine, Department of Genetics,
University of Alabama

Chester A. Gipson, DVM

Deputy Administrator, Animal Care,
Animal and Plant Health Inspection Service,
U.S. Department of Agriculture

Betty J. Goldentyer, DVM

Eastern Regional Director, Animal Care,
Animal and Plant Health Inspection Service, U.S.
Department of Agriculture

Brian Hare, PhD

Assistant Professor of Evolutionary Anthropology,
Duke Institute for Brain Sciences

Nancy Hopkins, PhD

Professor of Biology, Department of Biology,
Massachusetts Institute of Technology

David Jacobson-Kram, PhD, DABT

Associate Director for Pharmacology and Toxicology,
Office of New Drugs, Food and Drug Administration

Mary Lou James, BA, LATG

Consultant, Regulatory Compliance, Research Animal Welfare and President, IACUC 101 Series

Erich D. Jarvis, PhD

Associate Professor, Howard Hughes Medical Institute,
Department of Neurobiology, Duke University
Medical Center

J. David Jentsch, PhD

Professor, Departments of Psychology and Psychiatry,
David Geffen School of Medicine,
University of California, Los Angeles. Associate
Director for Research, Brain Research Institute

Michael G. Kurilla, PhD, MD

Director, Office of BioDefense Research Affairs and
Associate Director, BioDefense Product Development,
Division of Microbiology and Infectious Diseases,
National Institute of Allergy and Infectious Diseases,
National Institutes of Health

Steven L. Leary, DVM

Assistant Vice Chancellor for Veterinary Affairs
and Director, Division of Comparative Medicine,
Washington University School of Medicine

Susan E. Lederer, PhD

Robert Turell Professor, Medical History and Bioethics,
University of Wisconsin

ANIMAL WELFARE AND SCIENTIFIC RESEARCH: 1985 TO 2010

Speaker List

Steele F. Mattingly, DVM

Director, Laboratory Animal Medical Services,
University of Cincinnati, retired

Charles R. McCarthy, PhD

Office of Education and Compliance Oversight,
Virginia Commonwealth University. Director,
Office for Protection from Research Risks,
National Institutes of Health, retired

Willie D. McCullough, PhD

Senior Program Official, Office of Construction Grants,
National Center for Research Resources,
National Institutes of Health

John G. Miller, DVM, ACLAM

Director, Office for Protection from Research Risks,
National Institutes of Health, retired

Richard K. Nakamura, PhD

Scientific Director, Division of Intramural Research
Programs, National Institute of Mental Health,
National Institutes of Health

Christian E. Newcomer, VMD, DAACLAM

Executive Director, Association for Assessment and
Accreditation of Laboratory Animal Care International

Tanja Popovic, MD, PhD

Deputy Associate Director for Science,
Centers for Disease Control and Prevention

Dario Ringach, PhD

Professor, Neurobiology and Psychology, Jules Stein
Eye Institute, Biomedical Engineering Program, David
Geffen School of Medicine, University of California,
Los Angeles

Sally J. Rockey, PhD

Deputy Director for Extramural Research and Director,
Office of Extramural Research,
National Institutes of Health

Dale Schwindaman, DVM

Deputy Administrator, Regulatory Enforcement and
Animal Care, Animal and Plant Health Inspection
Service, U.S. Department of Agriculture, retired

Susan B. Silk, MS

Director, Division of Policy and Education,
Office of Laboratory Animal Welfare,
National Institutes of Health

Michael R. Talcott, DVM, DAACLAM

Director, Veterinary Surgical Services, Division
of Comparative Medicine and Research Assistant
Professor, Surgery and Neurosurgery,
Washington University

James F. Taylor, DVM

Director, Office of Animal Care and Use,
National Institutes of Health, retired

Gerald L. Van Hoosier, DVM, DAACLAM

Professor Emeritus, Comparative Medicine,
School of Medicine, University of Washington

William White, VMD, MS, DAACLAM, DECLAM

Corporate Vice President, Veterinary and
Professional Services, Charles River Laboratories

Robert A. Whitney, DVM, MS

Public Health Service, retired

Thomas Wolfle, DVM, PhD

Director, Institute for Laboratory Animal Research,
National Research Council, National Academy of
Sciences, retired

Larry J. Young, PhD

Professor, Department of Psychiatry and Behavioral
Sciences, Emory University School of Medicine and
Division Chief, Center for Behavioral Neuroscience,
Yerkes National Primate Research Center

Stuart M. Zola, PhD

Director, Yerkes National Primate Research Center
Professor, Psychiatry and Behavioral Sciences, Emory
University School of Medicine and Associate Director,
Emory Alzheimer's Disease Research Center

THANK YOU TO OUR SUPPORTERS

The generosity of the following NIH Institutes and Centers, federal partners, non-profit and business organizations help make this important event possible. Stewardship of federally funded research and the protection of animals used in that research is a collaborative effort between USDA, NIH, federally supported scientific investigators, and research institutions. OLAW, USDA and IACUC 101 are honored to stand shoulder to shoulder with these partners and supporters in our shared mission to provide quality animal care in support of biomedical research to advance both human and animal health.

NIH INSTITUTES AND CENTERS

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
National Cancer Institute (NCI)
National Eye Institute (NEI)
National Heart Lung and Blood Institute (NHLBI)
National Human Genome Research Institute (NHGRI)
National Institute on Aging (NIA)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)
National Institute of Allergy and Infectious Diseases (NIAID)
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
National Institute on Drug Abuse (NIDA)
National Institute of Mental Health (NIMH)
National Institute of Environmental Health Sciences (NIEHS)
Office of Animal Care and Use (OACU), Office of Intramural Research, Office of the Director, NIH

FEDERAL PARTNERS

Centers for Disease Control and Prevention (CDC)
Department of Veterans Affairs (VA)
Food and Drug Administration (FDA)

NON-PROFIT ORGANIZATIONS

Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC)
Americans for Medical Progress (AMP)
American Veterinary Medical Association (AVMA)★
Collaborative Institutional Training Initiative (CITI)◇
Foundation for Biomedical Research (FBR)
Public Responsibility in Medicine and Research (PRIM&R)◇
Scientists Center for Animal Welfare (SCAW)
States United for Biomedical Research (SUBR)

BUSINESS ORGANIZATIONS

Charles River Laboratories, Inc.★

★Silver Star Contributor - \$5,000
◇Bronze Star Contributor - \$2,500

HELPFUL LINKS

REFERENCES

- **PHS Policy on Humane Care and Use of Laboratory Animals**
(<http://grants.nih.gov/grants/olaw/references/phspol.htm>)
- **U.S. Government Principles**
(<http://grants.nih.gov/grants/olaw/references/phspol.htm#USGovPrinciples>)
- **Health Research Extension Act of 1985 (Public Law 99-158)**
(<http://grants.nih.gov/grants/olaw/references/hrea1985.htm>)
- **Animal Welfare Act and Regulations**
(<http://www.nal.usda.gov/awic/legislat/awa.htm>)
- **Guide for the Care and Use of Laboratory Animals**
(http://www.nap.edu/catalog.php?record_id=12910)

ORGANIZATIONS

- **Office of Laboratory Animal Welfare, National Institutes of Health**
(<http://grants.nih.gov/grants/olaw/olaw.htm>)
- **Animal and Plant Health Inspection Service, U.S. Department of Agriculture**
(<http://www.aphis.usda.gov/>)
- **Animal Welfare Information Center, National Agricultural Library, USDA**
(http://awic.nal.usda.gov/nal_display/index.php?tax_level=1&info_center=3)
- **IACUC 101**
(<http://iacuc101.org/>)
- **Association for Assessment and Accreditation of Laboratory Animal Care International**
(<http://www.aaalac.org/>)

GENERAL INFORMATION

Bethesda North Marriott Hotel & Conference Center

5701 Marinelli Road, Bethesda, Maryland 20852
Phone: 1-301-822-9200 (not to be used for reservations)
Fax: 1-301-822-9201

Web Address: <http://www.marriott.com/hotels/travel/wasbn-bethesda-north-marriott-hotel-and-conference-center/>

The Bethesda North Marriott Hotel & Conference Center is near the Strathmore, restaurants, shopping & many attractions and landmarks.

Arrival Information

Check-In time is 4:00pm and checkout is 12:00pm daily. Express check-in and out services are also available.

High-Speed Internet Access

Wireless access is available throughout the hotel for \$12.95 per day.

Business Service

The hotel offers a full service business center which is open 24 hours located in the hotel lobby area.

TRANSPORTATION

Airports: The hotel is located within close proximity to three major airports: Ronald Reagan Washington National Airport, Baltimore/Washington International Thurgood Marshall Airport, and Dulles International Airport. You have a few options for getting to/from the airports:

Subway service: Metro fee from Ronald Reagan Washington National Airport is \$5.00 (one way).

Shuttle service: Shuttle services at all three airports offer inexpensive shared transportation.

Taxi service: From Dulles International Airport, estimated fare is \$60.00 (one way). From Ronald Reagan Washington National Airport, estimated fare is \$55.00 (one way). From Baltimore/Washington International Thurgood Marshall Airport, estimated fare is \$75.00 (one way).

ON-SITE DINING

Meritage

American

- Open for breakfast, lunch and dinner
- Dress code: Casual
- Phone: 301-822-9234

On The Rocks

Other

- Open for lunch and dinner
- Dress code: Casual
- Phone: 301-822-9234

THINGS TO DO IN THE AREA

Downtown Bethesda: In downtown Bethesda, you'll find a thriving urban district, brimming with nearly 200 restaurants, two live theaters, 20 art galleries and some of the best shopping in the Washington, DC Metro Area. Take the red line Metro to the Bethesda Station.

Washington, DC: Take the Metro downtown to explore the nation's capital. There you'll find a plethora of restaurants, theaters, shopping districts, monuments, museums, and memorials.

ON-SITE INFORMATION

For assistance during the conference, visit the registration desk located on the Main Level in the conference area during the following times:

Monday, October 25: 7:00am – 5:30pm

Tuesday, October 26: 7:00am – 5:30pm

Exhibitors

Non-profit organizations will be exhibiting in the foyer area on the Main Level in the conference area.

Exhibit Hours:

Monday, October 25: 7:00am – 5:00pm

Tuesday, October 26: 7:00am – 5:00pm

HOTEL MAPS

