



AMERICAN COLLEGE OF ANIMAL WELFARE

Note new address for the Secretary as of April 1, 2016

January 1, 2016

Thank you for your interest in the process of becoming a board certified veterinarian in the American College of Animal Welfare. This version of the ACAW Applicant's Packet provides information relative to the ACAW process of becoming board certified using an **Alternate Route** program. This route is intended for individuals who have some but not all of their requirements already completed and those who are not intending or unable to be in a traditional animal welfare residency training program at a university. The Packet will be updated periodically to provide you with the most current information. There are several sections, with each intended to provide you with information needed at different stages of your quest. Updated forms are also being posted on the website.

Please read this material carefully. It will be important when submitting materials to the ACAW that the **most current** instructions are followed. An overview of what steps will be needed is located on page 3.

Please note various deadlines and fees. Once training is complete and you feel that you have met the criteria evaluated by the Training Committee, you will apply for credentialing. The submission of your credentials and associated fees must be in the office of the ACAW Secretary not later than November 1st in order to be considered for the examination held the following year. The credentialing submission **must** include everything you intend to use to support your proof of having completed training because that document is the only information the Credential's Committee will use to make their determination.

New as of 2016 is the requirement for anyone who becomes an ACAW Diplomate after January 1, 2016 must meet the recertification requirements of the organization.

We are excited that you have the interest in the American College of Animal Welfare and look forward to working with you toward your goal.

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Overview of the Steps Toward Certification in the **A**merican **C**ollege of **A**nimal **W**elfare

Alternate Route

Alternate Route
a) Training in progress but incomplete by Aug. 1, 2012; or b) Want training via Alternate Route
Find an ACAW Diplomate mentor
Register and pay registration fee of \$200
Submit proposed program for approval within 18 months of registration and no later than January 1 st of the year credentialing will be submitted
Complete the ACAW accepted program within 5 years of it being accepted
Submit credentialing materials + credentialing fee of \$300
Pass credentialing
Submit Application for Exam form + exam fee of \$300
Pass examination within 5 years of 1 st credentialing submission and in no more than 3 examination attempts

Alternate Route

Pathways for individuals who have less than 5 years of animal welfare experience prior to August 1, 2012:

The purpose of the ACAW training programs is to provide high quality education in the science of animal welfare. The core for each program is defined by the ACAW Role Delineation Document, which serves as the basis of approval for any submitted program, the credentialing process, and the examination.

Individuals who feel they have completed an education covering the material in the Role Delineation Document prior to August 1, 2012 may register with ACAW and submit credentialing documents supporting that as outlined under the *Provisional Route*. Anyone who has not completed their education in the Role Delineation Document subjects by August 1, 2012 must do so via the Training Route or the Alternate Route pathways.

Two types of individuals fall into this category for using an Alternate Route program: a) individuals who have been doing some work in the field of animal welfare after receiving their veterinary degree but have not completed 5 full years of experience prior to August 1, 2012 or lack experience in several parts outlined in the Role Delineation Document (RDD), and b) individuals who would like training equivalent to the Training Route but who cannot get into such a program or have other reasons why they cannot do the more traditional Training Route.

The first step to starting on an Alternate Route program is to find an ACAW Diplomate who will agree to mentor you during your program. Please know that some mentors may require compensation for their activities, with specifics to be worked out between the two individuals. Once the mentor is found, you will then submit the ACAW Registration Form with the appropriate registration fee.

Once you have registered, you and your mentor together will design a program of study to meet the ACAW credentialing requirements and submit that program for acceptance within 18 months for registering with ACAW. The materials you submit in the proposed Alternate Route program should spell out clearly what you have already done so you get credit for it and what remains to be done (and how you intend to do that) relative to the RDD. It is desirable to use the Animal Welfare Activities Form to list the animal welfare related activities you have already completed, if any, in one color and those which are yet to be done in another color.

Include descriptions in enough detail to show how each is expected to meet the knowledge expectations listed in the RDD.

The Alternate Route program must be completed and credentialing applied for within 5 years of the acceptance of your Alternate Program. You will also be expected to pass the examination within 5 years of the 1st submission of your credentialing materials (regardless of whether you pass that 1st credentialing submission). You will have a maximum of 3 attempts to pass the examination in that 5 year period prior to having to go through the registration, program submission, and credentialing process again.

The requirements for individuals in the Alternate Route are as follows:

1. Be a graduate of a college or school of veterinary medicine accredited or approved by the AVMA, or possess a certificate from the Educational Commission for Foreign Veterinary Graduates (ECFVG), or is qualified to practice veterinary medicine in some state, province, territory, or possession of the United States, Canada, or other country.
2. Identify an ACAW Diplomate mentor
3. Register with ACAW by completing the **ACAW Registration Form**.
 - a. Submit one copy of the **ACAW Registration Form** electronically to the ACAW Secretary.
 - i. Mail a check/money order to cover the registration fee to the ACAW Secretary. Individuals from outside the United States must send a money order.
 - ii. The ACAW Diplomate confirms to ACAW that s/he has agreed to serve as the candidate's mentor.
4. Submit the proposed Alternate Route program materials to ACAW for review and approval by the Training Committee.
 - a. Work with the mentor to develop a proposed Alternate Route program.
 - b. The proposed program must be submitted for review no more than 19 months from the date of registration.
 - c. Complete and send the **Proposed Alternate Route Program Form**.
 - i. The proposed program should include information about how the candidate intends to meet the criteria that is ultimately required for credentialing. This includes how they will gain the knowledge required in the Role Delineation Document (RDD) (including specifics about those things already done and a plan of completion for the areas not yet covered), a proposed timeline for completion, and areas of research interest (including previous publications). Previous experience in the field of animal welfare obtained in the post-veterinary degree

timeframe, knowledge obtained while achieving Diplomate status in another veterinary specialty organizations, in a dual residency program, or in a relevant doctoral (Ph.D., D.Sc.) program should also be included..

- ii. Performance of animal welfare assessments
 1. 12 areas for performance assessments as listed in the Task 9B section of the RDD
 - a. Companion animals
 - b. Poultry production
 - c. Hooved stock production
 - d. Equids
 - e. Laboratory animals
 - f. Zoo animals
 - g. Aquatic animals
 - h. Aquaculture/fisheries
 - i. Wildlife/exotic animals
 - j. Animals in exhibitions/entertainment
 - k. Animals in education
 - l. Working/assistant animals
 2. Direct observations should include performing animal welfare assessments for components of a-f above and at least 2 additional components from g-l above.
 3. An alternative to direct assessments is online training such as provided in training scenarios available through the Michigan State University website or videos
 4. The use of standardized animal welfare assessment tools is preferred such as for physical/emotional health or species appropriate behavior.
- iii. Case studies/case reports – “Case studies” or “case reports” are encouraged to be included in the program. These are activities to assist a mentor and candidate with the discussion of a situation or condition. Case studies/case reports general include:
 1. Identification of a situation where welfare would need to be assessed
 2. Determination of how to assess the welfare of the animal(s)
 3. Written report of the assessment, including recommendations for steps that could be instituted so that the welfare could be improved.

As an example, a mentor might define a specific situation (e.g., dairy operation, animal shelter, elephant enclosure) where the candidate could compare, contrast, list, rank order the issues or circumstances inherent to the situation that might affect animal welfare, and the mentor could request a candidate provide a paradigm for a modified, and potentially enhanced outcome for the animal(s). The purpose of the exercise is to identify factors affecting welfare, consideration of factor interaction upon welfare, and professional decision-making regarding options and choices supportive of good welfare outcomes. These case studies/case reports are documentable in the candidate's application of the alternate pathway as demonstrable evidence of focused interaction with the Diplomate mentor and attentiveness to welfare principles and applications.

- d. The applicant is encouraged but not required to also include an **Animal Welfare Activities Log Form** noting in one color those things they feel they have already completed and using a second color to indicate those things that remain to be done, as well as how they expect to do them.
 - e. Include a letter from the mentor stating that they have been actively involved in the development of the proposed alternate route and that they feel the proposed training program is consistent with ACAW requirements.
 - f. Pending the outcome of the Training Committee review, additional areas of study may be identified or the packet may be approved.
 - g. The submission of the proposed Alternate Route program cannot occur later than January first of the year the candidate intends to submit credentialing materials.
5. Complete the program as approved by the Training Committee within 5 years of the program being accepted by ACAW. The applicant's Alternate Route program must be complete **before** credentialing materials can be submitted.
 6. Complete the **Verification of Credentials Form-Alternate Route** and **Animal Welfare Activities Log Form**.
 - a. Fill out completely because **proof that you have met the qualifications is entirely your responsibility.**
 - i. Must document by providing Curriculum Vitae and other information asked for on the **Verification of Credentials Form-Alternate Route** and **Animal Welfare Activities Log Form** that they have obtained the knowledge required in the Role Delineation Document / Training Program Knowledge.

1. Animal welfare post-veterinary experiential activities and observational training beyond on-the-job experience should be included in the **Animal Welfare Activities Log Form**.
 2. The candidate must submit a copy of their accepted Alternate Route program and then demonstrate how they specifically filled each of the sections of the initial plan.
 3. Pending the outcome of the Credentials Committee review, additional areas of study may be identified or the packet may be approved.
- ii. Must meet publication requirements
1. Proof of **final** acceptance of submitted manuscripts (if published papers were not initially submitted) must be received by the ACAW Secretary by April 1st following passing of Credentials.
 2. Manuscripts should have a substantial focus on animal welfare and/or discuss how the research performed directly impacts a component of animal welfare as outlined in the RDD.
 - a. If the manuscript has not received final acceptance when credentials are submitted, a copy of the manuscript and a letter of its receipt from an approved journal must be submitted at the time of credentialing.
 - b. Verification of final acceptance of the submitted manuscript(s) must be received by the ACAW Secretary by April 1st following submission of Credentials.
 - c. A person is not eligible to sit the examination until final acceptance of credentials (including publication requirements) has been received.
- b. Electronically submit one copy of each of the following to the ACAW Secretary. They must be received by November 1st.
- i. A signed copy of the **Verification of Credentials Form-Alternate Route**
 - ii. The **Animal Welfare Activities Log Form**
 - iii. A copy of each publication, or a copy of the manuscript(s) submitted for publication with a copy of the letter of receipt by the publisher if a manuscript has not been finally accepted for publication
 - iv. Curriculum vitae

- v. Veterinary diploma, ECFVG certificate, or license/certificate to practice veterinary medicine
- c. Mail a check/money order to cover credentialing fee to the ACAW Secretary.
 - i. Must be received by November 1st
 - ii. Individuals are expected to sit the first examination given after successful credentialing.
- d. Identify 3 individuals to provide evaluation of your knowledge in animal welfare, one of whom must be your ACAW Diplomate mentor.
 - i. Provide each with an **Applicant Evaluation Form** that you have filled out the applicant's portion at the top
 - ii. These forms are to be returned directly by the evaluator to ACAW and must be received by November 1st
 - 1. It is the candidate's responsibility to ensure the forms are received by the deadline.
- e. Once a candidate's credentials have passed, the candidate will be asked to submit a completed **Application for Examination and Code of Conduct Form** electronically to the ACAW Secretary.
 - i. Mail a check/money order to cover the examination fee to the ACAW Secretary when this form is submitted

Individuals certified after 2015 will be required to comply with mandatory recertification requirements.

American College of Animal Welfare (ACAW)
Resource List

The ACAW has developed the following suggested resource list for individuals interested in developing a deeper understanding of animal welfare. The intent of the list is to help the applicant view the breadth and scope of animal welfare, including controversial issues, and to augment current knowledge in preparation for the examination. It should not be construed as a commitment regarding specific examination material nor does it reflect endorsement of a particular viewpoint expressed by any author. For ease of use, the list is divided by tasks listed on the Role Delineation Document (RDD), then alphabetically by author/editor, although many references contain information that would apply to more than one task and are not listed more than once. For the purposes of studying for the ACAW examination, it is suggested that an applicant review texts pertaining to general principles of animal welfare (marked with an asterisk *) as well as web links and species specific material as needed, then use other resources within each RDD category to augment knowledge. More timely material, available in periodicals listed at the end should be consulted as well.

Number	RDD Task	Allocation
1	Concepts and History of Animal Welfare	10%
2	Ethical Issues	12.5%
3	Animal Welfare Assessment Considerations	15%
4	Animal Environments	10%
5	The Role of the Veterinary Profession in Promoting Animal Welfare	5%
6	The Individual Veterinarian's Role in Promoting Animal Welfare	10%
7	The Impact of Human, Animal, Environment Interactions on Animal Welfare	10%
8	Regulations, Policies, and Guidelines	7.5%
9A	Contemporary Animal Welfare Issues, Overarching Topics	20% (A+B)
9B	Contemporary Animal Welfare Issues, Species Specific Topics	"

Section I: Book Titles

Task 1. Concepts and History of Animal Welfare

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
Appleby MC, Hughes BO, Mench JA, Olsson A	<i>Animal Welfare (2nd Edition)</i> CABI	2011	*
Appleby MC	<i>What Should We Do About Animal Welfare?</i> Blackwell Science, Oxford	1999	
Broom DM, Fraser AF	<i>Domestic Animal Behaviour and Welfare (4th ed.)</i> CABI International	2007	*
Dawkins MS	<i>Animal Suffering - The Science of Animal Welfare</i> Chapman and Hall	1980	
Edie EN	<i>Understanding Animal Welfare: An Integrated Approach</i> Springer	2012	
Fraser D	<i>Understanding Animal Welfare: The Science in its Cultural Context</i> Universities Federation for Animal Welfare (UFAW) Publication	2008	
Grandin T	<i>Improving Animal Welfare: A Practical Approach</i> CABI Publishing	2009	*
Gregory NG, Grandin T	<i>Animal Welfare and Meat Production (2nd Edition)</i>	2007	
Gregory NG	<i>Physiology and Behavior of Animal Suffering</i> Universities Federation for Animal Welfare (UFAW)	2004	*

	Publication		
Greek R, Shanks N	<i>FAQs About the use of Animals in Science</i> University Press of America, www.univpress.com	2009	
McMillan FD	<i>Mental Health and Well-being in Animals</i> Blackwell Publishing	2005	
Mellor D, Patterson-Kane E, Stafford KJ	<i>The Sciences of Animal Welfare</i>	2009	*
Mills DS	<i>The Encyclopedia of Applied Animal Behaviour and Welfare</i> (Relevant chapters), CABI	2010	*
Phillips C	<i>The Welfare of Animals: the Silent Majority</i> Springer	2009	
Webster J	<i>Animal Welfare - A Cool Eye Towards Eden</i> Blackwell Science	1994	
Webster J	<i>Animal Welfare: Limping Towards Eden</i> Blackwell UFAW	2005	

Task 2. Ethical Issues

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
Appleby MC, Weary DM, Sandoe P	<i>Dilemmas in Animal Welfare</i> www.cabi.org	2014	
Beauchamp TL, Childress JF	<i>Principles of Biomedical Ethics, 6th Ed.</i> Oxford University Press	2009	
Beauchamp TL, Orlans FB, Dresser R, Morton DB, Gluck JP.	<i>The Human Use of Animals, 2nd Ed.</i> Oxford University Press	2008	
Broom DM	<i>Sentience and Animal Welfare</i> www.cabi.org	2014	
Bryant J, Baggott la Velle L, Searle J	<i>Introduction to Bioethics</i> Wiley & Sons	2005	
Ekesbo, I	Farm Animal Behaviour: characteristics for assessment of health and welfare CABI Press, ISBN 13: 978 184593-7706.	2011	
Harrison R	<i>Animal Machines</i> Vincent Stuart Publishers	1964	
Haynes PH	<i>Animal Welfare: competing conceptions and their ethical implications</i> Springer	2008	
Hendriksen M	<i>Humane Endpoints in Animal Experiments for Biomedical Research</i> London : Royal Society of Medicine Press	1999	
Norton BG, Hutchins M, Stevens EF, Maple TL	<i>Ethics on the Ark</i> Smithsonian Institution Press	1995	
Orlans FB, Beauchamp TL, Dresser R, Morton DB, Gluck JP	<i>The Human Use of Animals, 1st Ed.</i> Oxford University Press	1998	
Orlans FB	<i>In the Name of Science - Issues in Responsible Animal Experimentation</i> Oxford University Press	1993	
Regan T	<i>The Case for Animal Rights</i> University of California Press	1983	

Rollin BE	<i>An Introduction to Veterinary Medical Ethics: Theory and Cases, 2nd edition</i> Blackwell Publishing	2006	
Rollin BE	<i>Farm Animal Welfare: Social, Bioethical, and Research Issues</i> Iowa State University Press	1995	
Rowan AN	<i>Of Mice, Models & Men</i> SUNY Press	1984	
Russell WMS, Burch RL	<i>The Principles of Humane Experimental Technique</i> Methuen, London On-line, see link at www.nc3rs.org.uk	1959	
Sandoe P, Christiansen SB	<i>Ethics of Animal Use</i> Blackwell publishing	2008	
Singer P	<i>Animal Liberation, 2nd edition</i> Random House	1990	
Singer P	<i>In Defense of Animals</i> Basil Blackwell	1985	
Tannenbaum J	<i>Veterinary Ethic: Animal Welfare, Client Relations, Competition and Collegiality, 2nd edition</i> Mosby	1995	*

Task 3. Animal Welfare Assessment Considerations

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
Dawkins MS	<i>Observing Animal Behaviour: Design and Analysis of Quantitative Data</i> Oxford University Press	2007	
Houpt K	<i>Domestic Animal Behavior, 5th Ed.</i> Blackwell Publishing	2010	
Jensen P	<i>The Ethology of Domestic Animals</i> CABI Publishing	2002	
Keeling LJ, Gonyou HW	<i>Social Behaviour in Farm Animals</i> CABI	2001	
Luescher AU	<i>Manual of Parrot Behavior</i> Blackwell Publishing	2006	
Mason G, Rushen J	<i>Stereotypic Animal Behavior: Fundamentals and Applications to Welfare, 2nd edition</i> CABI Publishing	2006	*
Mellor DJ, Thornber PM, Bayvel ACD, Kahn S (NRC)	<i>OIE Technical Series Vol. 10: Scientific assessment and management of animal pain</i> National Academies Press	2008	
Moberg G, Mench JA	<i>The Biology of Animal Stress: Basic Principles and Implications for Animal Welfare</i> www.cabi-publishing.org	2000	
National Dairy FARM Program	<i>Animal Care Reference Manual and Quick Reference Guide</i> Published by: National Milk Producers Federation www.nationaldairyfarm.com	2013	
NRC	<i>Recognition and Alleviation of Pain in Laboratory Animals</i> National Academies Press	2009	
Price EO	<i>Principles & Applications of Domestic Animal Behavior</i> www.cabi.org	2008	
Smulders FJM, Algers B	<i>Welfare of Production Animals: Assessment and Management of Risks</i> Wageningen Academic Publishers	2009	

Task 4. Animal Environments

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
Kemppinen N	<i>Refinement and Reduction Outcomes of Cage Furniture and Restricted Feeding in Laboratory Rats</i> Finland KUOPIO UNIVERSITY PUBLICATIONS C. NATURAL AND ENVIRONMENTAL SCIENCES 258. Free online at http://epublications.uef.fi/pub/urn_isbn_978-951-27-1291-5/urn_isbn_978-951-27-1291-5.pdf	2009	
Reinhardt V, Reinhardt A	<i>Comfortable Quarters for Laboratory Animals</i> Animal Welfare Institute	2002	
Reinhardt V, Reinhardt A	<i>Variables, Refinement and Environmental Enrichment for Rodents and Rabbits kept in Research Institutions: Making Life Easier for Animals in Laboratories</i> Animal Welfare Institute	2006	
Shepherson DJ, Mellen JD, Hutchins M (eds)	<i>Second Nature: Environmental Enrichment for Captive Animals</i> , 1998 Smithsonian Institution Press	1998	
Smith P, Crabtree H, Bird N	<i>Perfecting the Pig Environment</i> Nottingham University Press	2009	

Task 5. The Role of the Veterinary Profession in Promoting Animal Welfare

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
NRC	<i>National Need and Priorities for Veterinarians in Biomedical Research</i> National Academies Press	2003	
James Yeates	<i>Animal Welfare in Veterinary Practice (AFAW)</i> Wiley-Blackwell Publishers	2013	*

Task 6. The Individual Veterinarian's Role in Promoting Animal Welfare

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
Fowler M	<i>Restraint and Handling of Wild and Domestic Animals</i> Blackwell Publishing	2008	
NRC	<i>National Need and Priorities for Veterinarians in Biomedical Research</i> National Academies Press	2003	
James Yeates	<i>Animal Welfare in Veterinary Practice (AFAW)</i> Wiley-Blackwell Publishers	2013	*

Task 7. The Impact of Human, Animal, Environment Interactions on Animal Welfare

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
Klaassen CD	<i>Casarett and Doule's Toxicology: the basic science of poisons (7th edition), Especially Chapters: "Occupational Toxicology" & "Regulatory Toxicology"</i> McGraw-Hill; also available on line	2007	
Salem H, Katz SA	<i>Alternative toxicological methods</i> CRC Press	2003	
World Organisation for Animal Health (OIE)	<i>Animal Welfare: Global Issues, Trends and Challenges</i> , Vol. 24 (2), August	2005	

Task 8. Regulations, Policies, and Guidelines

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
AVMA	<i>AVMA Guidelines on Euthanasia</i> AVMA Press	2012	
Association of Shelter Veterinarians	<i>Guidelines of Standards of Care in Animal Shelters</i> Association of Shelter Veterinarians Free online at http://www.sheltervet.org/associations/4853/files/Standards%20final%20bookmarks_with%20security.pdf	2010	
FASS	<i>Guide for the care and use of agricultural animals in research and teaching (3rd edition)</i> Federation of Animal Science and Societies	2010	
NRC, ILAR, Committee on Guidelines for the Humane Transportation of Laboratory Animals	<i>Guidelines for the Humane Transportation of Research Animals</i> National Academies Press	2006	
National Chicken Council	<i>National Chicken Council Animal Welfare Guidelines and Audit Checklist for Broilers</i> National Chicken Council	2010	
National Chicken Council	<i>National Chicken Council Animal Welfare Guidelines and Audit Checklist for Broiler Breeders</i> National Chicken Council	2010	
NRC	<i>Guidelines for the Humane Transportation of Research Animals</i> National Academies Press	2006	
NRC	<i>Recognition and Alleviation of Distress in Laboratory Animals</i> National Academies Press	2008	
NRC	<i>Recognition and Alleviation of Pain in Laboratory Animals</i> National Academies Press	2009	
NRC	<i>Guide for the Care and Use of Laboratory Animals (11th edition)</i> National Academies Press; Free download: http://www.nap.edu/catalog.php?record_id=12910	2010	
NRC	<i>Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research</i> National Academies Press	2003	
NRC	<i>Service Policy and Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training</i> National Academies Press	1985	
NRC	<i>Scientific and Humane Issues in the Use of Random Source Dogs and Cats</i> National Academies Press	2009	
NRC	<i>Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research</i> National Academies Press	2003	
NRC	<i>The Psychological Well-Being of Nonhuman Primates</i>	1998	
National Turkey Federation	<i>Animal Care Best Management Practices: Production Guidelines</i> Available on request from: National Turkey Federation, 1225 New York Avenue, NW Suite 400 Washington, DC 20005 (Phone: 202/898-0100)	2009	
OLAW	<i>Institutional Animal Care and Use Committee Guidebook (2nd edition)</i> Department of Health and Human Services, Office of Laboratory Animal Welfare (OLAW)	2002	
OLAW	<i>Public Health Service Policy on Humane Care and Use of Laboratory Animals</i>	2002	

	Department of Health and Human Services, Office of Laboratory Animal Welfare (OLAW)		
Podolsky ML, Lukas VS	<i>The Care and Feeding of an IACUC</i> CRC Press	1999	
National Toxicology Program (<i>Advocate 3-R's for toxicological testing</i>)	(1) The NTP Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) (2) Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) http://iccvam.niehs.nih.gov/	Current	

Task 9A & 9B. Contemporary Animal Welfare Issues

AUTHOR/EDITOR	TITLE AND PUBLISHER	YEAR	*
Appleby MC, Cussen V, Garcés L, Lambert LA, Turner J	<i>Long Distance Transport and Welfare of Farm Animals</i> CABI	2008	*
Appleby MC, Mench JA, Hughes BO	<i>Poultry Behaviour and Welfare</i> CABI Publishing	2004	*
Bayne K, Turner PV (ACLAM Series)	<i>Laboratory Animal Welfare: Practice and Ethics</i> Academic Press	2014	*
Beaver VB, Hoglund DL	<i>Efficient Livestock Handling: The Practical Application of Animal Welfare and Behavioral Science</i> Academic Press	2016	*
Benson GJ, Rollin BE	<i>The Well-Being of Farm Animals: Challenges and Solutions</i> Blackwell	2004	
Dierauf LA, Gulland FMD	<i>The CRC Handbook of Marine Mammal Medicine (2nd edition), especially chapters 13, 32, 33</i> CRC Press	2001	*
Dwyer CM	<i>The Welfare of Sheep</i> Springer	2008	
Forthman, DL	<i>Elephant in the room: the science and well-being of elephants in captivity</i> Tufts Center for Animals and Public Policy	2009	
Fox JG et al.	Laboratory Animal Medicine (Second Edition); selected chapters	2002	
Fraser AF	<i>The Behaviour and Welfare of the Horse</i> (Second Edition) CABI	2010	
Grandin T	<i>Humane Livestock Handling</i> Storey Publishing	2008	
Grandin T	<i>Livestock Handling and Transport</i> CABI	1993	
Hosey G, Melfi V, and Pankhurst S	<i>Zoo Animals: behaviour, management, and welfare, 2nd edition</i> Oxford University Press	2013	
Hubrecht RC	<i>The Welfare of Animals Used in Research</i> UFAW/Wiley-Blackwell	2014	
Kaliste E	<i>The Welfare of Laboratory Animals</i> Springer	2004	
Marchant-Forde JN	<i>The Welfare of Pigs</i> Springer	2009	*
McIlwraith CW, Rollin	<i>Equine Welfare (UFAW Animal Welfare Series)</i>	2011	

BE	Wiley-Blackwell, ISBN: 978-1-4051-8763-3		
NRC	<i>The Psychological Well-Being of Nonhuman Primates</i> National Academies Press	1999	
Phillips C	<i>Cattle Welfare and Behavior</i> , 2 nd edition Iowa State Press	2002	*
Phillips C	<i>The Animal Trade</i> www.cabi.org	2015	
Price EO	<i>Principles & Applications of Domestic Animal Behavior</i> CABI	2008	
Rochlitz I	<i>The Welfare of Cats</i> Springer	2005	
Rushen J, de Passille AM, von Keyserlingk AG, Weary DM	<i>The Welfare of Cattle</i> Springer	2008	
Saif YM, Fadly AM, Glisson JR, McDougald JR, Nolan LK, Swayne DE	<i>Diseases of Poultry</i> , 12th Edition Wiley (E-book also available)	2008	
Stafford K	<i>The Welfare of Dogs</i> Springer	2006	
Tudge C	<i>Last Animals at the Zoo</i> Oxford University Press	1991	
van de Weerd HA	<i>Environmental Enrichment for Laboratory Mice: Preferences and Consequences</i> Universiteit Utrecht/Print Partners Free online at http://igitur-archive.library.uu.nl/dissertations/01801846/inhoud.htm	1996	
Velarde A, Geers R	<i>On farm monitoring of pig welfare</i> , Wageningen Academic Publishers	2007	
Waran N	<i>The Welfare of Horses</i> Kluwer Academic Publishers	2002	
Wolfensohn S, Lloyd M	<i>Handbook of Laboratory Animal Management and Welfare</i> , 4 th Edition Wiley-Blackwell Publishing	2013	
Webster J	<i>Management and Welfare of Farm Animals: The UFAW Farm Handbook</i>	2011	
Young RJ (UFAW)	<i>Environmental Enrichment for Captive Animals (UFAW)</i> Blackwell Science LTD	2003	

Section II: Seminal articles, Issues, Proceedings, & Web sites

AUTHOR/EDITOR	TITLE AND JOURNAL VOLUME & PAGES	DATE	*
Hendriksen CFM, Morton DB, Netherlands Association for Laboratory Animal Science	<i>Humane Endpoints in Animal Experiments for Biomedical Research: Proceedings of the International Conference, 22-25 November 1998, Zeist, the Netherlands</i> Open access, order via CD (2006): http://www.nc3rs.org.uk/category.asp?catID=21	1998	
ILAR Various Authors	Humane endpoints for animals used in biomedical research and testing ILAR J 41(2):59-123.	2000	
ILAR Various Authors	Regulatory testing and animal welfare. ILAR J 43(Supplement):S1-S133.	2002	
ILAR Various Authors	Use of amphibians in the research, laboratory, or classroom setting. ILAR J 48(3):179-310.	2007	
ILAR Various Authors	Contemporary topics for animal care committees ILAR J 48(1):1-64.	2007	
ILAR Various Authors	Preparation of animals for use in the laboratory. ILAR J 47(4):281-390.	2006	
ILAR Various Authors	Enrichment strategies for laboratory animals. ILAR J 46(2):79-226.	2005	
OIE; World Organisation for Animal Health	Animal Welfare: Global Issues, Trends and Challenges, Vol. 24 (2)	2005	*
AVMA	AVMA animal welfare web site policies and backgrounders, AVMA Guidelines on Euthanasia, AVMA Principles of Animal Welfare, Position Statement on Animal Abuse and Neglect, Veal Calf management www.avma.org	current	*
Animal Welfare Acts and Amendments	http://awic.nal.usda.gov/government-and-professional-resources/federal-laws/animal-welfare-act	2006+	*
Horse Protection Act, Marine Mammals Protection Act, etc	http://www.aphis.usda.gov/animal_welfare/hp/index.shtml	1970, 2007+	*
Humane Methods of Slaughter Act	http://awic.nal.usda.gov/government-and-professional-resources/federal-laws/humane-methods-slaughter-act	1978	*
CITES	Cites website and associated documents http://www.cites.org/	current	*
Georgetown University Law Center	List of International Animal Law Documents http://www.ll.georgetown.edu/guides/InternationalAnimalLaw.cfm#ForeignLaw	2012	
OIE	World Organisation for Animal Health, Terrestrial Animal Code (Twentieth edition), Chapter 7.8. Use of Animals in Research and Education Http://www.oie.int/eng/normes/mcode/en_chapitre_1.7.8.htm	2011	*
NRC	Effective Pain Management. Recognition and Alleviation of Pain in Laboratory Animals	2009	*

Current On line Courses (Recommended for Training)

AUTHOR/EDITOR	TITLE AND PUBLISHER	*
University of Guelph	Equine Welfare www.EquineWelfareCertificate.com http://www.coles.uoguelph.ca/offerings/offering.aspx?hold=y&id=3740	
University of Edinburgh	Animal Behavior and Welfare http://www.ed.ac.uk/studying/postgraduate/degrees?id=238&cw_xml=details.php	
University of Edinburgh	International Animal Welfare, Ethics & Law http://www.ed.ac.uk/studying/postgraduate/degrees?id=788&cw_xml=details.php	
University of Winchester	Animal Welfare Science, Ethics and Law http://www.winchester.ac.uk/Studyhere/Pages/msc-animal-welfare-science-ethics-and-law.aspx	

Section III: Journal List in the Field of Animal Welfare Science (in alphabetical order)

First Tier	Second Tier
Animal Behaviour	Acta Veterinaria Scandinavia
Animal Welfare	Alternatives to Laboratory Animals
Anthrozoos	Australian Veterinary Journal
Applied Animal Behaviour Science	Canadian Veterinary Journal
ILAR Journal	Journal of Veterinary Medical Education
Journal of the American Association for Laboratory Animal Science	Behaviour
Journal of Applied Animal Welfare Science	Journal of Veterinary Behavior: Clinical Applications and Research
Journal of the AVMA	Research in Veterinary Science
Lab Animal	The Shape of Enrichment
Laboratory Animals	
Nature	
Revue Scientifique et Technique (OIE Journal)	
Science	
Veterinary Journal	
Veterinary Record	
Veterinary Quarterly	

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American College of Animal Welfare

Finding a Mentor

Mentors must be ACAW Diplomates. The list of ACAW Diplomates and their contact information is available on the “Contact Us” page of the website. Any of those individuals except the ACAW Secretary, Dr. Bayne, can serve as a mentor.

The role of the mentor in an Alternate Route Program is to work with the mentee to develop an educational program that meets the expectations of someone in a Training Route Program with the diversity of knowledge and experiences. They then guide the mentee through the educational process to ensure that all aspects of the accepted program are completed. It is highly recommended that the mentee work closely with the mentor through all aspects of their program.

American College of Animal Welfare Certification Instructions for Candidates Alternate Route

Read these instructions carefully! Candidates are responsible for adhering to the requirements and deadlines described below. All forms and materials for consideration of credentials or applications for examination are required to be submitted electronically in as few separate files as possible, with each file name including the last name of the candidate.

The official language for the certification process of ACAW is **English**.

*** * * DEADLINE for completed certification application is November 1st of the year prior the year in which the exam is intended * * ***

I. Training Requirements:

A. *Alternate Route*

1. All individuals who intend to apply to ACAW, **must** be registered with ACAW. It is preferred that individuals do this as soon as possible. It must be done prior to submission of credentialing materials.
2. Submission of the proposed Alternate Route program for ACAW approval must be submitted within 18 months of registration.
3. Submission of the proposed Alternate Route program must occur no later than January 1st of the year the individual intends to submit credentialing materials.
4. Completion of the ACAW accepted Alternate Route program as previously submitted within 5 years of the program being submitted.

II. Credentialing process

- A. A **complete credentialing package** must be submitted to the ACAW Secretary by November 1st of the year prior to the year the candidate is intends to be considered for the examination.

1. The completed **Verification of Credentials Form: ALTERNATE ROUTE**
 - a. Review the form carefully. Complete all the fields in detail. It is important that you demonstrate to the reviewers that you meet all qualifications.

- b. Note that entries marked with an asterisk are “required”.
 - c. Do not exclude information that might also be in your curriculum vitae because it may be overlooked if only there.
- 2. The candidate's **Curriculum Vitae (CV)**.
- 3. Documentation of completion of the tasks in the Role Delineation. Document (RDD) by completing Tabs 1, 2, and 3 of the **Animal Welfare Activities Log Form**.
- 4. **Two publications** or manuscripts with a letter of **final** acceptance for publication in accepted journals representing the applicant's efforts (applicant must be the FIRST author--the FIRST author is the major contributor to the work and has typically collected the data and written the article) in the area of Animal Welfare. The publication/manuscript must have a substantial focus on animal welfare and/or discuss how the research directly impacts a component of animal welfare related to the topics in the RDD.
 - a. Published articles must be in acceptable journals listed in this Packet.
 - b. Manuscripts used to meet this requirement must already have been submitted to an approved journal when materials are submitted for credentialing. If the candidate has not received notice of final acceptance, a copy of the manuscript and a letter/notice from the journal that the manuscript has been received need to be included in materials submitted.
 - i. Proof of final acceptance from a peer-reviewed journal acceptable to the College of the manuscript that was submitted to ACAW must occur **by April 1st prior to the exam**.
 - c. Substitution of a different manuscript and subsequent publication will need to be reviewed by the Credentials Committee to determine if it is acceptable for credentialing requirements. Credentialing may fail if the Committee determines that the manuscript does not meet ACAW requirements or if that substitution is submitted after the November 1 deadline.
- 5. Support documents:
 - a. A copy of veterinary diploma (in English) or ECFVG certificate, or copy of license to practice (or equivalent)
- 6. A signed, scanned letter from the candidate's mentor
 - a. Letters from mentors are should indicate that the mentor did interact with the candidate on a frequent and regular basis throughout the training program. Mentors should also complete

an **Applicant Evaluation Form**.

- b. Letters should be sent directly to the ACAW Secretary by the mentor and received no later than **November 1st** of the year preceding the examination.
- 7. All documents and mentor letters are to be submitted electronically.
 - a. Any form requiring a signature should be signed and scanned for submission.
- B. Candidates are to send their application documents as a pdf file to the ACAW Secretary electronically.
 - 1. Files should be emailed to Dr. Kathryn Bayne, at kbayne@aaalac.org.
 - 2. Any other arrangement for providing the electronic files (e.g., mailing a flash drive, drop box) must first be approved by Dr. Bayne.
- C. The following must be included as separate pdf's or as a single pdf file with bookmarks. **Materials must be sent in the following order:**
 - 1. Registration Form (copy as originally submitted to ACAW)
 - 2. Alternate Route Program materials as previously approved by the ACAW Training Committee
 - 3. Verification of Credentials Form
 - 4. Curriculum Vita
 - 5. Instructions – Animal Welfare Activities Log
 - 6. Journal Articles – Animal Welfare Activities Log
 - 7. Tasks – Animal Welfare Activities Log
 - 8. Journal article #1
 - 9. Journal article #2
 - 10. Veterinary license/diploma
 - 11. Letter from the mentor (described in #6 above)
- D. Credentialing fees should be mailed to Dr. Kathryn Bayne, 5205 Chairman's Court, Suite #300, Frederick, MD 21703. Applications will not be reviewed until the fees have been received.
- E. Letters of evaluation (on the **Applicant Evaluation Forms**) **MUST** also be sent electronically directly to the Secretary by the evaluator, not the applicant. It is the applicant's responsibility to ensure that the three letters of evaluation are received by the November first deadline.
- F. Specific questions regarding the credentials process may be sent to the Secretary (kbayne@aaalac.org).

III. Notification of decision by the Credentials Committee: Candidates will be notified of the Credentials Committee's decision, *pending manuscript acceptance*, by the ACAW Secretary no later than February 15th. In the interval between submission of Credentials and notification of the decision, the Credentials Committee will review the application documents. If questions arise, the Credentials

Committee Chair or the ACAW Secretary may request clarification. It is not the responsibility of ACAW to contact the Candidate if additional information is required. The Candidate is responsible for submitting materials demonstrating that the criteria required to sit the exam are met.

To facilitate communication, please inform the ACAW Secretary of any change of address or other contact information between the time of application and the final decision.

IV. Credentials Decision Consequences: The Credentials Committee will either accept or reject an applicant's credentials. The successful applicants will be contacted regarding the details of the examination process. If an applicant's credentials are rejected, a letter from the ACAW Secretary on behalf of the Credentials Committee will explain the decision and suggest actions to be taken to correct any problem(s). The rejected applicant should resubmit credentialing materials and inform the Secretary of the results of his/her corrective measures **no later than November 1st** of the year following the original submission.

V. Appealing a decision by the Credentials Committee: A candidate may petition for review of the decision by filing with the Secretary a written petition for reconsideration which shall include a statement of grounds for reconsideration and documentation in support of the petition. Such a petition **must be filed within 30 days** of the date on which the ACAW, via the Secretary, announces its decision. See the information for the **Appeals Process for an Adverse Decision** for additional information.

VI. Certification Process for the ACAW: The certification process toward Diplomate status by the American College of Animal Welfare begins with registration with ACAW, continues through the educational component, and is ends with success in credentialing (as described above). Following successful credentialing, there will need to be approval of the **Application for Examination Form**.

VII. Fees: Each step in the process has a specific fee associated with it to cover the associated costs to the organization. Be sure to check the fee schedule so that correct amounts are included.

- A. With electronic submissions, applications will be held until the appropriate fee has been deposited.
- B. All credentialing fees are payable in United States dollars and are non-refundable unless indicated. Fees may be paid with checks or money orders, except that individuals outside of the United States must pay by

money order.

- C. Resubmission of credentialing materials must be accompanied by a full credentialing fee.

CHECKLIST FOR ACAW CREDENTIALS APPLICATION (please submit in the following order as a pdf file)

1. **ACAW Registration Form** (copy as originally submitted to ACAW)
2. Alternate Route program as previously approved by ACAW
3. **Verification of Credentials Form: ALTERNATE ROUTE**
4. Curriculum vitae
5. Instructions – **Animal Welfare Activities Log Form**
6. Journal Articles – **Animal Welfare Activities Log Form**
7. Tasks – **Animal Welfare Activities Log Form**
8. Journal article #1 or manuscript with letter of receipt/final acceptance
9. Journal article #2 or manuscript with letter of receipt/final acceptance
10. Veterinary license/diploma
11. Mentor's letter regarding their involvement in the candidate's educational process and indicating that the candidate has appropriated done what was agreed to in there ACAW accepted program (sent directly to ACAW by the mentor).
12. Electronic evaluations from three people, with one of those people being the ACAW Diplomat mentor, on the pre-signed **Applicant Evaluation Form** (sent directly to ACAW by your evaluators)
13. Credentialing fee in US dollars (non-refundable and sent separately to the ACAW Secretary)

American College of Animal Welfare Publication Requirements

A Candidate is expected to be the first author of two original articles addressing animal welfare issues. These articles must demonstrate the application of the scientific method and/or the use of critical thinking.

The *scientific method* is defined as techniques for investigating phenomenon, acquiring new knowledge, or correcting and integrating previous knowledge; a method of inquiry must be based on gathering observable, empirical and measurable evidence subject to specific principles of reasoning; consists of the collection of data through observation and experimentation, and the formulation and testing of hypotheses.

Critical thinking is defined as purposeful and reflective judgment about what to believe or do in response to observations, experience, verbal or written expressions, or arguments; might involve determining the meaning and significance of what is observed or expressed.

Manuscripts should have a substantial focus on animal welfare. In the case of previously published research, the manuscript should discuss how the research directly impacts a component of animal welfare as outlined in the RDD.

The articles must have been published in or accepted for publication in a **peer-reviewed** journal acceptable to the College and have been/are being peer reviewed (see ACAW List of Acceptable Journals below).

Peer-reviewed means that the journal editor has sent the manuscript to other scientists who then provide feedback to the editor about the quality of the manuscript and project. The editor then provides feedback to the author regarding the reviews for comments and possible revision.

Editorial review is a review of a manuscript for spelling and grammar in order to improve readability. Content is not evaluated. Editorial review only is **not** acceptable for the ACAW requirement. Commentaries and

editorials are **not acceptable without documentation** that they have also been peer-reviewed.

Clinical case reports may be peer-reviewed but focus on health outcomes and diagnoses in animals. Such reports do not have a focus on animal welfare and do not discuss the impact of any findings on a component of animal welfare and are therefore **not** acceptable for the ACAW requirement.

Proof of **final** acceptance of the manuscript or the published article must accompany the credentialing materials. If the Candidate does not have one or both required publications already published or finally accepted, the Candidate must submit copies of manuscripts s/he is intending to use of ACAW credentialing along with a letter that the manuscript has been received by the journal at the time credentialing materials are submitted. Proof of final acceptance of the manuscript submitted must be received no later than April 1st prior to the examination. Substitution of another manuscript and final acceptance will require that the Credentials Committee review that new material to determine if it meets the ACAW requirements.

Example of an Article Using Critical Thinking

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Transnational Organizational Considerations for Sociocultural Differences in Ethics and Virtual Team Functioning in Laboratory Animal Science

Stacy L. Pritt^{1,*} and Jayne Mackta²

Business models for transnational organizations include linking different geographies through common codes of conduct, policies, and virtual teams. Global companies with laboratory animal science activities (whether outsourced or performed inhouse) often see the need for these business activities in relation to animal-based research and benefit from them. Global biomedical research organizations can learn how to better foster worldwide cooperation and teamwork by understanding and working with sociocultural differences in ethics and by knowing how to facilitate appropriate virtual team actions. Associated practices include implementing codes and policies transcend cultural, ethnic, or other boundaries and equipping virtual teams with the needed technology, support, and rewards to ensure timely and productive work that ultimately promotes good science and patient safety in drug development.

Transnational organizations integrate domestic and international components of their businesses throughout all levels of the organization. Such organizations are characterized by "highly specialized yet closely linked groups of global business managers, country or regional managers, and worldwide functional managers."³ High levels of communication flow, environmental adaptation, and interdependence between locations and operations are hallmarks of transnational organizations.¹³ To enable successful outcomes of these high-level processes on a global scale, transnational organizations find themselves managing virtual teams (namely, those separated by time and distance and that communicate mainly by electronic means) and sociocultural differences in ethics over wide geographic distances.

Increasingly, many organizations with biomedical research programs, and therefore laboratory animal programs, are moving toward transnational business models.¹⁸ For the laboratory animal manager, this transition may mean communicating and working with, or possibly even leading, persons or departments in countries other than the United States. Most notably, several transnational pharmaceutical companies and contract research organizations use managers (vice presidents, directors, managers, and others) to start or manage facilities abroad and to develop global policies for animal use and related matters. These types of interactions generally are not part of a typical laboratory animal facility manager's background in the United States, nor have they been included in nontechnical competency and skill development programs for facility managers until the need arises (if then).

A trend toward the formation of global policies has arisen to address the need for pharmaceutical companies and other organizations to monitor animal welfare during the conduct of studies outsourced to contract research organizations across the

globe.^{17,26} An organization's desire to see their animal research policies enacted at a contract research organization or other facility performing outsourced work is not unusual.²⁰ Mechanisms to put such policies in place or respond to them often incorporate an understanding of the differences in sociocultural ethics in various geographies and virtual teams. Transnational organizations can accommodate and prepare for sociocultural differences in ethics and virtual teams in laboratory animal science. The ability for a transnational organization to support the transfer of knowledge about sociocultural differences and facilitate the work of virtual teams could be of particular benefit to the field of biomedical research.

Many transnational or global laboratory animal science programs start with the formation of virtual teams and an awareness of sociocultural differences with regard to ethics including animal care and use (including regulatory differences). Without provision for these 2 fixtures of the transnational organization in relation to laboratory animal programs, efforts for global harmonization may be hampered or fail.

Sociocultural Differences in Ethics

Sociocultural differences are perhaps the most important factors to consider when looking at increasing communication flow, policy adaptation, and interdependence in transnational organizations. Building on the observations of a management expert, understanding value and attitude differences among groups of employees is critical for the "effectiveness of multinational and transnational corporations."¹⁹ Differences in the ethical reasoning processes of employees from different countries become challenging to work with in transnational organizations. Business ethics, in particular, have received intense scrutiny over the past few decades, and that level of scrutiny is increasing.¹

Ethical behaviors are considered crucial for good business and improve organizational behavior and the long-term success of the firm.¹ In addition, a strong sense of ethics is needed when it comes to appropriate animal care and use and conducting all types of research in a compliant manner. However, defining

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ethics can be difficult, and what is considered ethical differs from country to country as well as culture to culture.¹ Many transnational organizations naturally seek to have unified and ethical core values that run throughout the organization,²³ and this need is particularly true for the conduct of research and the use of laboratory animals. Therefore, it stands to reason that transnational organizations will face challenges in this area.

Values, norms, and general organizational procedures constitute the core of ethics for an organization. Standardizing these values, norms, and organizational procedures becomes a mechanism for how a firm approaches its transnational organizational design.²³ Workers with different cultural backgrounds will approach these values, norms, and procedures differently, when it comes to ethical reasoning, decision-making, and behavior.^{18,23} For example, ethical dilemmas are situations where the welfare of others may be affected.²³ Employees from different countries or cultures will universally deliberate on such dilemmas, but the actions taken will differ because culture affects the reasoning the employees use.²³ In another example, employees from some cultures, particularly in East Asia, will offer vague responses for answers rather than the firm decisions needed an attempt to avoid responsibility in case something goes awry.¹⁸ Specific examples of sociocultural differences related to animal research encompass variable interpretations of the same standard operating procedures for animal and veterinary care, disparate uses of equipment (for example, some cultures value cost-savings over quality for cleaning despite the presence of and requirement to use state-of-the-art cleaning equipment in a facility), and assumptions that all parties involved are following applicable regulations and guidelines (some cultures do not make such assumptions). In addition, the identification of ethical dilemmas, views of norms and structures, decision-making processes and outcomes, willingness to take on responsibility for actions, and consistency of ethical actions varies from culture to culture.^{4,15,18,23-25}

Transnational organizations can handle these ethical differences by incorporating the influence of culture into the development, communication, and implementation of global corporate values and standards,²³ including animal care and use. Transnational organizations can "develop global codes of ethics that would transcend the bounds of any singular cultural reference point" and request agreement to the moral principles of such codes.²³ To apply the codes globally and make them transcultural, strong educational, communication, and compliance programs are needed at the outset.²³ In particular, the need for and ability to obtain appropriately translated country- or region-specific animal welfare laws and regulations can be daunting but critical to understanding sociocultural differences and applying global codes of ethics and conduct.¹⁸ Many transnational organizations establish global veterinary or animal welfare groups to incorporate sociocultural differences when creating global codes of ethics and conduct for animal-based research.

Efforts toward establishing codes of ethics and codes of conduct help create a "shared identity" of the workers throughout a transnational organization.² Experience has demonstrated that organizational management at the highest levels need to understand and promote animal welfare, codes of ethics, and codes of conduct throughout the organization for such efforts to be long-standing and effective. Employees need to be energized around a common purpose and common benefit for the company.² 'Boundaryless' interactions, collaborations, and a "cooperative mindset" are fostered when employees have a shared identity and purpose.¹² Such ideas need to be incorporated into efforts to globally harmonize and create standards for laboratory animals

and their use within transnational organizations. Examples of areas for harmonized or global standards include 1) the need for an ethical review of the use of animals before study initiation; 2) the need for veterinary involvement in study design and oversight; 3) requirements for facility AAALAC accreditation; 4) guidelines for study endpoints; 5) procedures for animal vendor selection; 6) requirements for training, licensure, and certification of investigators, veterinarians, animal care or research technicians, and others; 7) procedures for reporting animal care and use concerns; 8) requirements for caging, environmental enrichment, animal observations, and sanitation practices; 9) procedures for postapproval study monitoring; 10) requirements to follow Good Laboratory Practice or other agency regulations depending on where study data is to be submitted for drug development; and 11) procedures for anesthesia and analgesia use and selection, which can be highly variable depending on availability and local safety regulations.

Virtual Teams

The movement toward performing work in teams as a primary mode of operations revolutionized the workplace in the 1980s. Many organizations have adopted the team model for task performance, with positive results. Transnational organizations, by their very nature, face the obstacle of pulling together employees from various areas of the globe into teams when a teamwork approach is desired. Virtual teams therefore have become a "natural way" for transnational organizations to address the needs of their "global reach," and their presence is "briskly increasing" within such organizations.²⁷ Mergers, acquisitions, and the increased globalization of the market place all point toward the increasing use of virtual teams in transnational organizations.²⁷ In laboratory animal science, often the first interactions that workers in the United States will have with employees from other countries will be through virtual teams.

Virtual teams are a mechanism used to coordinate work throughout different functions, operational divisions, physical locations, and time zones.²⁷ They usually perform all work exclusively by using electronic communication avenues.^{9,21,27} Videoconferencing, teleconferencing, Internet and intranet postings and communication, facsimile, instant messaging, telephones, and electronic mail are all technologies used by such teams.^{9,21,27}

The benefits of using virtual teams include potential cost savings, promotion of an environment that fosters knowledge transfer and innovation, and the provision of mechanisms by which expertise can be concentrated, regardless of the geographic location of that expertise.^{16,21,27} Transnational pharmaceutical companies and contract research organizations are using such teams to develop global standards, policies, and training programs as well as create training materials and deliver such training. Disadvantages of virtual teams include the loss of close interpersonal experiences and the inability to decipher body language.

Cultural differences come into play with transnational virtual teams. These differences are manifested by how team members organize their work, lead, make decisions, communicate, coordinate, determine accountability, and monitor work.^{7,9,14,16,27} When exclusively using technology for communication, modeling other team members' behaviors and monitoring work progress becomes even more difficult.^{8,10,27,28} As previously described, appropriately translated documents, including research animal laws and regulations, are needed.¹⁸ To help facilitate virtual teams in a laboratory animal science setting, staff members are

encouraged to come to meetings with questions and information on hand that are targeted at the cultures represented on the team. Planning meetings to establish baseline standards and operations at different sites may be beneficial before virtual teams attempt to tackle assigned tasks.

A strong emphasis on institutional norms, as described earlier, helps to mitigate potential issues in transnational teams.²⁷ Therefore, organizational design efforts that stress the importance of organizational norms will help support the efforts of transnational virtual teams. Ambiguity is a natural part of virtual teams, and providing for a structure for them helps garner success.²⁷ Specifically, supportive organizational design efforts including a centralized administrative support group, periodic updates to management, metrics on team effectiveness and ability to reach benchmarks, and presentations of recommendations to management can help virtual teams to "reduce ambiguity."^{5,27} It is also recommended that members of transnational teams be given cultural training prior to the outset of group work.⁹

The concept of a "professional culture" is another means by which personnel from different locales and cultures can be grouped effectively in a transnational organization.²² Research demonstrates that when an organization brings employees of similar or like professions together, the similar professional interests of the employees transcend cultural, political, or geographical differences.²² The same could be true of veterinarians and animal facility managers. Transnational organizations could use this knowledge in the design of their virtual teams.

Research also indicates that virtual teams require management of their activities to produce optimal outcomes.²⁷ This management typically comes in the form of organizational policies, procedures, and processes that the teams follow.²⁷ Policies, procedures, and processes help define authority and decision-making within virtual teams. Formalized structures along with shared authority and control in virtual teams and team agreement on outcomes and goals with a timeline for deliverables are positively associated with better results.²⁷ The team leader, or perhaps another facilitator, keeps the virtual team on track for ensuring timeline adherence.

An important component of employee performance development and management is how employees are rewarded.¹² To promote the work of teams in a transnational organization, team-based rather than individual-based rewards and incentives are needed.^{12,22} Although this concept seems simplistic, it is often overlooked by organizations that traditionally have rewarded employees by customary, individual rewards systems.^{12,22}

From a practical viewpoint, organizations must be designed to support the technology required for transnational virtual teamwork. Offices must be outfitted and maintained at a level to facilitate continuing electronic communications both with the appropriate equipment and personnel in support-services roles.²¹ Employees responsible for information systems in transnational organizations must be cognizant of differences in privacy laws, data protection, and security between countries.⁶ Virtual teams can become burdensome and ineffective without appropriate technologic support.⁹

Conclusions

For the development of the understanding of sociocultural differences and support of virtual teams in laboratory animal science, a high-level recommendation is to have key personnel visit other business locales. Laboratory animal veterinarians, who play a pivotal role in animal research worldwide, might visit laboratory animal facility in a transnational organization's

home country. The home country likely will have the most influence in the establishment of codes of ethics and conduct and operational standards. What is learned from home country visits, done first in the learning process, can then be taken to other locations to prepare them for virtual team work and future visits from the home country veterinarians and other personnel. In addition, key personnel interacting with employees from multiple cultures might consider taking formal courses on those cultures.

To survive, transnational organizations are naturally looking outwards and continuously trying to adapt to their environment.¹¹ For biomedical research, this adaptation many times means the standardization of laboratory animal operations and the implementation of global policies for animal care and use. Virtual teams often are used to help the organization meet such goals. However, before virtual teams can be successful, an understanding of sociocultural differences in ethics is needed. Lack of effective organizational support for dealing with sociocultural differences in ethics and virtual team operations typically leads to unproductive and undirected teamwork.

Globalization of the marketplace has driven many pharmaceutical companies and contract research organizations to design for international activities. Factors outside of any organizational chart, described herein, must also be addressed effectively to ensure success for the laboratory animal programs that also become transnational.

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American College of Animal Welfare

List of Acceptable Journals

First Tier	Second Tier
<i>Focused Journals:</i>	<i>Focused Journals:</i>
Animal Welfare	ILAR Journal
Journal of Applied Animal Welfare Sci.	Alternatives to Laboratory Animals
Society and Animals	Aleternativen zu Tierexperimenten
Applied Animal Behaviour Science	
Animal Behaviour	
Animal Technology and Welfare	
Anthrozoos	
<i>Other Scientific Journals:</i>	<i>Other Scientific Journals:</i>
Journal of the AVMA	Journal of Zoo and Wildlife Medicine
Veterinary Record	Journal of South African Veterinary Association
Veterinary Journal	Advances in Ethology
Canadian Veterinary Journal	Psychonomic Science
Australian Veterinary Journal	American Journal of Clinical Medicine
Acta Veterinaria Scandinavia	Animal
Research in Veterinary Science	Journal of Pharmacological and Toxicological Methods
Journal of Veterinary Medical Education	Toxicology in Vitro
Veterinary Quarterly	Toxicological Applications in Pharmacology
Veterinary Research Communications	In Vitro Cellular Developmental Biology
Revue Scientifique et Technique (OIE Journal)	Tijdschrift voor Diergeneeskunde
Behaviour	Animal Science and Technology
Journal of Veterinary Behavior	Animal Breeding Abstracts
Behavioral Processes	Journal of Animal Breeding and Genetics
Behavioral and Brain Sciences	Animal Science: An International Journal of Fundamental and Applied Research
Behavioural Brain Research	Biologist
Journal of Comparative Psychology	Reproduction
Developmental Psychobiology	International Journal of Sports Medicine
Journal of the American Association for	Journal of Veterinary Diagnostic

Laboratory Animal Science (formerly Contemporary Topics in Laboratory Animal Science)	Investigation
Lab Animal	Journal of Avian Medicine and Surgery
Laboratory Animals	Journal of Herpetological Medicine and Surgery
American Journal of Primatology	
Journal of Medical Primatology	
Comparative Medicine	
Regulatory Toxicology and Pharmacology	
Environmental Health Perspectives	
Journal of Animal Science	
Canadian Journal of Animal Science	
Australian Journal of Agricultural Research	
Australian Journal of Experimental Agriculture	
Livestock Production Science	
Animal Reproduction Science	
Poultry Science	
British Poultry Science	
Avian Diseases	
Avian Pathology	
Journal of Dairy Science	
Journal of Nutrition	
Bovine Practitioner	
Equine Veterinary Journal	
Journal of Endocrinology	
Theriogenology	
Experimental Physiology	
Nature	
Science	
Physiology and Behavior	
Cloning	
Xenotransplantation	
Journal of Wildlife Diseases	
Journal of Wildlife Management	
Zoo Biology	
Journal of Environmental Management	
New Zealand Veterinary Journal	
Animal	
Veterinary Anesthesia and Analgesia	
Journal of Veterinary Pharmacology and Therapeutics	
Journal of Pain	

Journal of Swine Health and Productivity	
Journal of Veterinary Internal Medicine	
Journal of Applied Poultry Research	
Journal of Feline Medicine and Surgery	
Journal of American Animal Hospital Association	
Veterinary Surgery	
Toxicological Sciences	
American Journal of Veterinary Research	
Journal of the American Public Health Association	
American Journal of Tropical Medicine and Hygiene	
Journal of Fish Biology	
Journal of Fish Diseases	
Journal of Veterinary Emergency and Critical Care	
Zoonoses and Public Health	
Advances in the Study of Behavior	
Aquatic Conservation	
<i>Other Ethics Journals:</i>	<i>Other Ethics Journals:</i>
Journal of Bioethical Inquiry	Journal of Value Inquiry
Journal of Social Philosophy	Bioethics
Journal of Medical Ethics	
International Journal of Applied Philosophy	
American Journal of Bioethics	

American College of Animal Welfare Information for Evaluators

People who are undergoing the credentialing process for the American College of Animal Welfare are required to have three (3) individuals evaluate the understanding and efforts in animal welfare. One of the individuals should be the ACAW Diplomate mentor. (This is in addition to a letter from the mentor describing the status of the candidate relative to the candidate's dedication to their ACAW evaluated program and mentor interaction.) Each evaluator should receive a pre-signed form from the candidate which is then to be completed and sent directly to the ACAW Secretary by the evaluator.

These **Applicant Evaluation Forms** provide an opportunity for ACAW to learn more about the candidate's efforts to become knowledgeable about the breadth of animal welfare topics. It is important for evaluators to know that their input is to be for **evaluation** of the candidate and are **not** letters of reference.

American College of Animal Welfare

Appeals Process for an Adverse Decision

In the event of a decision by the College that is contested, the affected person(s) shall be advised of the procedure for appealing that decision. The affected party may file a written petition on the grounds that the College has ruled erroneously by disregarding the established criteria for certification or approval; failing to follow its stated procedures; or failing to consider relevant evidence and documentation presented.

- A written petition must be received by the Secretary within 30 days of the date that the College announces its adverse decision. Such petitions shall include a statement of the grounds for reconsideration and documentation, if any, in support of the petition.
- The written petition of the affected party will be forwarded to an ad hoc Appeals Committee appointed by the Board of Directors for review, investigation, discussion and recommendation. The recommendation of the ad hoc committee shall be forwarded to the Board of Directors and a decision is made based on the merits of the appeal.
- The decision of the Board of Directors shall be delivered in writing by mail not more than 60 days after receipt of the petition.
- If the affected person is not satisfied with the decision, s/he may request mediation by the American Board of Veterinary Specialties of the American Veterinary Medical Association according to their established procedures.

American College of Animal Welfare

Fee Structure

1. Individuals are encouraged to check the website for updated versions of the Applicant's Packet.
2. Stated fees are payable in United States funds only.
 - Fees may be paid by checks or money orders payable to **ACAW** or **American College of Animal Welfare**.
 - Individuals from outside the United States must pay by money order.
3. Registration with ACAW for individuals who are intending to begin an *Alternate Route* program, including review of the applicant's proposed program shall be \$200.00.
 - There shall be no refund for the discontinuation of an *Alternate Route* program
 - Reactivation of an *Alternate Route* program requires registration again and review of the applicant's proposed program with a fee of \$200.00.
4. Fees for first review of completed credentialing packet shall be \$300.00.
 - Fees for re-review of revised credentialing packet following minor changes shall be \$50.00. Individuals will be notified if this fee applies.
 - Fees for re-review of revised credentialing packet following major changes shall be \$150.00. Individuals will be notified if this fee applies.
 - There shall be no refund for rejection of any credentialing packet
5. The Examination fee shall be \$350.00.
6. Annual dues for ACAW Diplomates shall be \$250.00 payable January 1st each year.
 - Candidates who successfully pass the examination will pay dues beginning January first of the year following the examination.

American College of Animal Welfare Role Delineation Document

The mission of the American College of Animal Welfare, ACAW, is to advance animal welfare (AW) in veterinary medicine through education, certification, and scientific investigation. Diplomates of the American College of Animal Welfare are veterinarians with specialized training and experience to carry out the ACAW mission. This mission is fulfilled through the application of specific knowledge to the tasks listed below.

(K = knowledge)

Task 1– Concepts and history of animal welfare (AW):

[Weight as determined by Diplomates: 10 %]

The ability to address these key precepts requires knowledge of:

T1-K1 Concepts of animal welfare and rights and similarities/differences thereto

Specifics to be addressed:

- a) Sentience
- b) AW and other related terms
- c) Teleology, Ontology
- d) Applicable ethical theories
- e) Influence of semantics

T1-K2 Concepts of animal needs

Specifics to be addressed:

- a) Maslow's hierarchy
- b) Descriptions in classic literature on animal welfare
- c) "Needs" versus "wants"

T1-K3 Concept of the Five Freedoms

Specifics to be addressed:

- a) Potential applicability
- b) Limitations
- c) Semantics of freedom

T1-K4 Concept of the 3 R's (Reduction, Replacement and Refinement)

Specifics to be addressed:

- a) Applications of the 3 R's in animal research and education

- b) Applications of the 3 R's outside of research and education
- c) Positive and negative consequences resulting from implementation of the 3Rs

T1-K5 Society's changing perceptions toward animals

Specifics to be addressed:

- a) Understanding the evolution of societal perceptions of AW
- b) Driving forces behind changing attitudes
- c) Human - animal bond and attachment theory
- d) Attitudes toward animal use
- e) Landmark events and other outcomes

T1-K6 Organizations/Agencies responsible for and/or impacting AW

Specifics to be addressed:

- a) Organizations that played a historical role in changes in AW
- b) Organizations associated with monitoring AW
- c) Organizations opposed to the use of animals for food, use in research, animal use/working animals, entertainment, agriculture, sports, etc.
- d) Breed clubs, producers, retailers, and other stakeholders
- e) Animal science professional organizations
- f) Conservationists and environmentalists

T1-K7 Global Perspectives

Specifics to be addressed:

- a) 4 Rs in India
- b) Differences in rate of and degree of change between societies.
- c) International organizations and governmental agencies and their positions on AW
- d) The impact of multinational corporations on global standards of AW
- e) Bilateral/multilateral trade issues

T1-K8 Decision-making processes regarding animal care and use

Specifics to be addressed:

- a) Unintended consequences, compromises, least harm principle, science, evidence based vs. anecdotal or cultural decision-making
- b) IACUCs/ACCs/Ethics Committees
- c) Economics of care
- d) Codes of practice and legal considerations
- e) social and market influences

Task 2 – Ethical Issues:**[Weight as determined by Diplomates: 12.5 %]**

The ability to address these key precepts requires knowledge of:

T2-K1 Philosophical principlesSpecifics to be addressed:

- a) Bioethics
- b) Harm/benefit analyses
- c) Sentience

T2-K2 Cultural, societal, and religious perspectives affecting animalsSpecifics to be addressed:

- a) Guardianship/ownership
- b) Role of or relationship with animals in different religions, cultures, and societies
- c) Animal welfare considerations and food supply
- d) Impact of socio-economic status on animal welfare

T2-K3 StewardshipSpecifics to be addressed:

- a) Managed feral and wild populations
- b) Surplus domestic animal populations
- c) Aged, unadoptable and sanctuary animal collections (cull animals), etc.
- d) Destiny programs, animal adoptions
- e) Endangered, threatened and protected species
- f) Environmental stewardship

T2-K4 Quality of lifeSpecifics to be addressed:

- a) Definitions
- b) Methods of assessment
- c) Current concepts

T2-K5 Population managementSpecifics to be addressed:

- a) Genetic diversity
- b) Culling
- c) High volume spay/neuter and other reproduction control initiatives
- d) Hunting and trapping methods

- e) Depopulation for disease control
- f) Other methods of resource management
- g) Public display and entertainment populations
- h) Wildlife rehabilitation
- i) Invasive species
- j) Vermin control

T2-K6 Reproductive Management

Specifics to be addressed:

- a) Selective Breeding
- b) Artificial insemination
- c) Contraception and sterilization

T2-K7 Emerging animal technologies,

Specifics to be addressed:

- a) Genetically modified animals
- b) Cloning
- c) Xenotransplantation
- d) Advanced Reproductive Technologies (ART)

T2-K8 Oversight processes

Specifics to be addressed:

- a) Authority/responsibilities of the IACUC/ACC/EC
- b) Clinical trials
- c) Informed consent by owner)
- d) Legal requirements
- e) Voluntary programs
- f) Public's role and expectations

T2-K9 Standards of care and use

Specifics to be addressed:

- a) Governmental and non-governmental (domestic and international)
- b) The concept of speciesism
- c) Same species under different circumstances
- d) How standards address motivational needs, provide choices and control, match the environment to the animals' natural adaptations, encourage animals to develop and use cognitive abilities

T2-K10 Societal Uses of Animals and Alternatives

Specifics to be addressed:

- a) Research, testing, education
- b) Sport/recreation
- c) Entertainment
- d) Companion
- e) Food/fiber
- f) Assistance and other working animals
- g) Humane education

Task 3 – Animal Welfare (AW) Assessment Considerations:

[Weight as determined by Diplomates: 15 %]

The ability to address these key precepts requires knowledge of:

T3-K1 Approaches to assessment of AW

Specifics to be addressed:

- a) Qualitative – Quantitative
- b) Homeostatic
- c) Affective states
- d) Telos
- e) Animal choices
- f) Five freedoms
- g) Using performance based vs engineering standards to assess AW
- h) Ontologic

T3-K2 The design and conduct of scientific investigations to examine issues of AW

Specifics to be addressed:

- a) Principles of experimental design (limitations of experimental evaluations; observational and epidemiologic studies)
- b) Data collection techniques
- c) Data analysis techniques (statistics (metrics and analyses), group level sensitivities and specificities, latent class analysis, detection capabilities, power analysis)
- d) Interpretation of results (Causal inference)
- e) Correlation vs. causation
- f) Impact of assessment - impact of the observer on behavior/welfare
- g) Selection of techniques to minimize discomfort/stress by species (when known)
- h) Characterization of animal models,
- i) Techniques used to address the 3R's (replacement, reduction, refinement) of animal models
- j) Current guidelines to reduce use of control animals in analgesia studies
- k) Quantitative analysis to assess animal populations (measurement of AW at the population level, including aspects of epidemiology)

T3-K3

Health

Specifics to be addressed:

- a) Body condition scoring systems
- b) Production parameters (recognize limitations)
- c) Diagnostic procedures
- d) Longevity
- e) Humane endpoints
- f) Behavior

T3-K4

Physiology

Specifics to be addressed:

- a) Normative data and characteristics,
- b) Clinical pathology
- c) Anesthesia, analgesia, patient monitoring
- d) Effect of pain and distress on physiology and endocrinology
- d) Changes in autonomic nervous system parameters

T3-K5

Behavior

Specifics to be addressed:

- a) Abnormal behavior as an indicator of problems
- b) Understanding normal behavior to optimize animal management
- c) The use of ethograms, time budgets, number of events, preference testing in the assessment of animal welfare
- d) Limitations of the behavioral assessment
- e) Assessing welfare by eliciting a behavior response
- f) Assessment of (temperament (and limitations)
- g) Pain behaviors and scoring systems

T3-K6

Animal care practices

Specifics to be addressed:

- a) Husbandry
- b) Assessing performance standards vs. engineering standards
- c) Species-specific considerations
- d) Record keeping
- e) Monitoring
- f) Positive reinforcement training
- g) Personnel/handler training and qualifications,
- h) Measures of production,
- i) Acclimation to the environment

Task 4 – Animal Environments:

[Weight as determined by Diplomates: 10 %]

The ability to address this key precept requires knowledge of:

T4-K1 Housing and habitat

Specifics to be addressed:

- a) General concepts of housing and the animal's environment
- b) Mixed species housing
- c) Comfort
- d) Safety
- e) Visual barriers
- f) Contingency systems

T4-K2 Environmental complexity

Specifics to be addressed:

- a) Enrichment (foraging opportunities; vertical/horizontal space)
- b) exercise
- c) Naturalistic environments
- d) Temperature/lighting

T4-K3 Social dynamics

Specifics to be addressed:

- a) Characterization of social dynamics (aggression, affiliation)
- b) Interactions between singly-housed animals
- c) Interactions between/among socially housed animals
- d) Interactions between groups or populations of animals
- e) Gender, age differences in social interactions
- f) Key species differences in social interactions
- g) Characterization of social interactions in free-ranging vs. captive environments

T4-K4 Husbandry practices

Specifics to be addressed:

- a) Feeding, watering, cleaning/sanitation, bedding/enclosure change.
- b) Species specific body care (grooming, foot care, dental)c Species specific restraint methods
- d) Animal handling techniques
- e) Behavior of animal attendants and others
- f) Caretaker environment, workload, and resources
- g) Documentation
- h) Management of compromised animals

i) Acclimation and habituation (restraint training and conditioning to novelty, transportation, sampling procedures, etc.)

Task 5 - The Role of the Veterinary Profession in Promoting AW:

[Weight as determined by Diplomates: 5 %]

The ability to address this key precept requires knowledge of:

T5-K1 The AVMA AW Principles

Specifics to be addressed:

- a) General concepts
- b) Applicability to specific AW issues

T5-K2 Ethical, moral, and legal responsibilities

Specifics to be addressed:

- a) Reporting potential abuse cases
- b) Involvement in decision-making groups
- c) The Veterinarian's Oath
- d) Four branches of veterinary ethics (Descriptive, Official, Administrative, Normative)
- e) Veterinary ethics and conflicting interests (i.e. patients vs clients; ethics and religion)
- f) Difference between ethical and legal standards
- g) AVMA Principles of Veterinary Medical Ethics
- h) Recognizing individual professional limitations

T5-K3 Recommending care and use practices

Specifics to be addressed:

- a) Involving other experts
- b) To veterinary colleagues
- c) To owners and caregivers
- d) To the public
- e) To lawmakers
- f) To the media

T5-K4 Participating in the legislative, regulatory and policy-setting process.

Specifics to be addressed:

- a) Develop position statements, white papers, etc.
- b) Provide objective information to inform decisions
- c) Demonstrate leadership and leverage communication in pluralistic environments

T5-K5 Educating stakeholder groups, the media, and the public

Specifics to be addressed:

- a) Communication training seminars, media training
- b) Use of popular media
- c) Use of emerging modalities

T5-K6 Disaster and emergency issues

Specifics to be addressed:

- a) Response planning, mitigation, support actions
- b) Chain of response to disasters
- c) Humane methods of animal control and mass euthanasia in emergency situations
- d) Communication

Task 6 - The Individual Veterinarian's Role in Promoting AW:

[Weight as determined by Diplomates: 10 %]

The ability to address this key precept requires knowledge of:

T6-K1 Diagnosis, treatment and prevention of disease (both physiological and psychological):

Specifics to be addressed:

- a) Decisions regarding providing or withholding treatment (e.g., antimicrobials)

T6-K2

Recognition, assessment, prevention and management of pain

Specifics to be addressed:

- a) Species variability, pathophysiology of pain, nociception and perception
- b) Effects of pain and distress
- c) Pre-emptive analgesia
- d) Pain scoring systems (Morton scale)
- e) Individual differences in pain sensitivity
- f) Mitigation and alleviation of pain

T6-K3

Recognition, assessment, prevention and management of stress and distress

Specifics to be addressed:

- a) Pathophysiology and endocrinology of stress, distress and eustress
- b) Moberg definitions,
- c) Rearing and postnatal environment;
- d) Disruptions of behavioral norms such as aberrant behavior/stereotypies; clinical signs

e) Mitigation and alleviation of stress/distress

T6-K4 Handling and restraint

Specifics to be addressed:

- a) Species specific methods – advantages and limitations (i.e., use of invisible electric fences and training methods, movement of animals
- b) Training of people

T6-K5 Acclimation, conditioning, and training

Specifics to be addressed:

- a) Housing
- b) Species, breed, and strain differences:
- c) Population management
- d) Training techniques and learning paradigms
- e) Specifics of socialization, acclimation, and conditioning of young animals

T6-K6 Assessment of methods and recommendations for inducing animal death

Specifics to be addressed:

- a) AVMA Guidelines on Euthanasia
- b) Slaughter
- c) Culling
- d) Mass depopulation
- e) Humane endpoints f) Selection and training of personnel

T6-K7 Recognition, assessment and management of effects on animals associated with procedures.

Specifics to be addressed:

- a) Sterilization
- b) Routine farm/management practices analgesics, anesthetics for management practices in other countries
- c) Cosmetic alterations
- d) Breed standards leading to abnormalities that affect animal welfare
- e) Genetic selection for high production or disease/condition susceptibility

f) Use of noxious stimuli

T6-K8 Disaster and emergency issues

Specifics to be addressed:

- a) Response planning, mitigation, support actions
- b) Chain of response to disasters

T6-K9 Communication

Specifics to be addressed:

- a) Media inquiry, crisis communication, scientific presentations, public education
- b) Continuing education for veterinarians, technicians, students
- c) Education of the public.
- d) Animal welfare education and animal use in K-12
- e) Science fairs
- f) Expert witness
- g) Dialogic pluralism

Task 7 – The Impact of Human, Animal, Environment Interactions on AW:
[Weight as determined by Diplomates: 10 %]

The ability to address this key precept requires knowledge of:

- T7-K1 Animal abuse or neglect
Specifics to be addressed:
- a) Hoarding of animals
 - b) Bestiality
 - c) Animal fighting
 - d) Relationship of animal abuse to child, elder and other human abuse
 - e) Signs of animal cruelty
 - f) Signs of neglect
- T7-K2 Environmental Changes
Specifics to be addressed:
- a) Habitat intrusion/loss.
 - b) Climate change
 - c) Pollution, to include ground water run-off
 - d) Livestock/wildlife interaction
 - e) Overpopulation
- T7-K3 The selection and training of animal attendants, animal technicians and other stewards invested in caring for animals
Specifics to be addressed:
- a) Emphasis on published literature on this issue
 - b) Organizations that provide training materials
 - c) Certification programs

Task 8 – Regulations, Policies and Guidelines:
[Weight as determined by Diplomates: 7.5 %]

The ability to address this key precept requires knowledge of:

T8-K1 Federal government legislation and regulations.

Specifics to be addressed:

- a) AW Act/USDA regulations
- b) PHS Policy
- c) FWS
- d) Lacey Act
- e) Pets Act (disaster response plans)
- f) Wild Free-Roaming Horse and Burro Act
- g) Marine Mammal Protection Act
- h) Animal Enterprise Terrorism Act
- i) Humane Methods of Slaughter Act
- j) Horse Protection Act
- k) 28 Hour Law

T8-K2 International regulations/requirements.

Specifics to be addressed:

- a) World Trade Organization (WTO)
- b) OIE - World Organization for Animal Health
- c) Council of Europe
- d) The United Nations Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and related controls on trade in wildlife

T8-K3 Transportation and movement of animals

Specifics to be addressed:

- a) Air Transport Association (ATA)
- b) International Air Transport Association (IATA)
- c) OIE Guidelines for the Transport of Animals by Land and by Sea
- d) Lacey Act
- e) CDC (nonhuman primate importation)
- f) USDA (import/export)
- g) 28 hour law
- h) Inter-state movement requirements

T8-K4 Implications of state and local laws and regulations

Specifics to be addressed:

- a) Animal control
- b) Anticruelty legislation
- c) Breed-specific legislation
- d) Guardian/owner
- e) Banning of specific veterinary procedures
- f) Banning of housing systems

Task 9 – Contemporary AW Issues:

[Weight as determined by Diplomates: 20 %]

A. Overarching Topics (apply to all or most of the species):

The ability to address these key precepts requires knowledge of:

T9A-K1 Economic issues

Specifics to be addressed:

- a) Economic constraints
- b) Societal vs individual responsibilities

T9A-K2 Feral and free-roaming animals

Specifics to be addressed:

- a) Trap-neuter-return
- b) protection of native species
- c) Impact on the environment/crops
- d) Impact on disease transmission

T9A-K3 Invasive species

Specifics to be addressed:

- a) Effect on the Environment
- b) Effect on native species

T9A-K4 Sanctuaries and shelters

Specifics to be addressed:

- a) Kill/no kill
- b) Disease control
- c) Quality of care
- d) Quality of life
- e) Live release rates and other measures of success
- f) Community issues (e.g., primate sanctuaries)
- g) Funding
- h) Personnel training and qualifications

T9A-K5 Transport/Import/Export of animals

Specifics to be addressed:

- a) Issues regarding shipping animals , long haul shipping, mouse passport
- b) Standards of care prior to importation and exportation
- c) Euthanasia during transportation

T9A-K6 Advanced Reproductive Technologies (ART)

Specifics to be addressed:

- a) Cloning, transgenics, genetic manipulation and breeding
- b) Non-surgical sterilization

T9A-K7 Human-animal bond

Specifics to be addressed:

- a) Hospital visits
- b) Assisted living pets

T9A-K8 Humane Education

Specifics to be addressed:

T9A-K9 Population management

Specifics to be addressed:

- a) Euthanasia
- b) Mass depopulation
- c) Mandatory spay/neuter legislation
- d) Selection
- e) Urban wildlife

B. Species Specific Topics:

1. Companion Animals:

The ability to address these key precepts requires knowledge of:

T9B1- Population control.
K1

Specifics to be addressed:

- a) Spay-neuter (humaneness of neutering)
- b) Early spay-neuter
- c) Non-surgical procedures (permanent sterilization)
- d) Cultural aversions to neutering

T9B1- Abandoned and relinquished companion animals
K2

Specifics to be addressed:

- a) Reasons (e.g., behavior)
- b) Fate of the animal

T9B1- Free roaming (owned) animals
K3

Specifics to be addressed:

- a) Wildlife threat
- b) Injuries and disease transmission
- c) Zoonotic disease transmission
- d) Owner lifestyle issues

T9B1- Feral animals
K4

Specifics to be addressed:

- a) Wildlife threat
- c) Injuries and disease transmission
- d) Zoonotic disease transmission

T9B1- Elective procedures
K5

Specifics to be addressed:

- a) Declawing
- b) Ear cropping
- c) Defanging
- d) Tail docking
- e) Devocalization
- f) Dewclaw removal

T9B1- Quality of life issues
K6

Specifics to be addressed:

- a) Hospice
- b) Therapeutic options
- c) Decision making/informed consent
- d) Clinical trials
- e) Euthanasia
- f) Artificial selection for extreme traits
- g) End of life decisions

T9B1- Transport
K7

Specifics to be addressed:

- a) Dogs in open cargo area of pickup trucks
- b) Sedation for transport
- c) Hyperthermia

T9B1- Abuse, cruelty, exploitation, neglect, inappropriate handling or care
K8

Specifics to be addressed:

- a) Hoarding
- b) Dog fighting
- c) Racing and sled dogs
- d) Training techniques
- e) Social isolation and over confinement

T9B1- Disaster issues
K9

Specifics to be addressed:

- a) Identification
- b) Rescue and return
- c) Housing/care
- d) Health care

T9B1- Sources of companion animals
K10

Specifics to be addressed:

- a) Puppy mills
- b) Pet shops
- c) Private and commercial breeders
- d) Friends and neighbors
- e) Animal shelters

T9B1- Animal care and control – Facilities and Management
K11

Specifics to be addressed:

- a) Shelters
- b) Rescue groups
- c) Sanctuaries
- d) No-kill
- e) Euthanasia procedures

T9B1- Wild animals in the pet trade
K12

Specifics to be addressed:

- a) Capture
- b) Transport
- c) Hybrids (wolf, cat)
- d) Care
- e) Impact of removing animals from the wild population
- f) Harvesting wild animals to sell
- g) Safety
- h) Abandonment

2. Production Animals - Poultry:

The ability to address these key precepts requires knowledge of:

T9B2- Housing and confinement
K1

Specifics to be addressed:

- a) Cage systems including enriched cages
- b) Cage-free systems (aviary, barn)
- c) Floor-type housing (litter)
- d) Semi-confinement
- e) Free range

T9B2- Euthanasia/Depopulation
K2

Specifics to be addressed:

- a) Male chick culling
- b) On farm culling
- c) Emergencies/Natural disasters/Disease outbreaks
- d) Spent hens
- e) Methods of euthanasia

T9B2- Husbandry procedures
K3

Specifics to be addressed:

- a) Beak/bill trimming
- c) Dubbing
- c) Snooding
- d) Toe trimming
- e) Web cutting in ducks

T9B2- Feeding practices
K4

Specifics to be addressed:

- a) Induced molting
- b) Feed restriction
- c) Foie gras production
- d) Antimicrobials in feed
- e) Feeder space

T9B2- Catching and transportation
K5

Specifics to be addressed:

- a) Mechanical catching
 - b) Manual catching
 - c) Trauma
 - d) Temperature control during transport
- Issues associated with slaughter /induction of death

T9B2-
K6

Specifics to be addressed:

- a) Electric stunning
- b) Controlled Atmosphere Stunning (CAS)
- c) Carbon dioxide
- d) Cervical dislocation
- e) Decapitation
- f) Maceration
- g) Shackling
- h) Decompression
- i) Humane Slaughter Act (not covered)

T9B2- Genetic selection
K7

Specifics to be addressed:

- a) Locomotion
- b) Over-muscling in meat-type poultry
- c) Osteoporosis in laying hens
- d) genetic selection relative to feather pecking and cannibalism

T9B2- Availability of medication
K8

Specifics to be addressed:

- a) medication bans
- b) animal health, and welfare
- c) organic poultry production

T9B2- Behavior
K9

Specifics to be addressed:

- a) Perching
- b) Nesting
- c) Foraging
- d) Dust Bathing
- e) Cannibalism and feather pecking
- f) Stretching (wings)
- g) Enrichment strategies

3. Production animals – hooved stock:

The ability to address these key precepts requires knowledge of:

T9B3- Euthanasia
K1

Specifics to be addressed:

- a) Appropriate methods of euthanasia and slaughter
- b) Selection and training of non-veterinary personnel in euthanasia methods
- c) Safety concerns related to restraint of animal (captive bolt, gunshot, CO2, blunt trauma)
- d) Decisions to prolong life (downer cows, carcass disposal)

T9B3- Slaughter
K2

Specifics to be addressed:

- a) Different techniques
- b) Pre-slaughter treatment
- c) Stunning failure

T9B3- Transportation
K3

Specifics to be addressed:

- a) Issues related to length of trip
- b) Quality of transportation (vehicle, training of personnel, route selection, air movement and temperature regulation in trailers for longer hauls, density of animals on trailers, trailer design)
- c) Commingling of animals and injuries (bulls, cows, calves, different weight classes, etc.)
- d) Handling animals that go down during transport (fatigue syndrome, downer cow)

T9B3- Husbandry procedures
K4

Specifics to be addressed:

- a) Castration
- b) Dehorning
- c) Hoof trimming and care
- d) Artificial Insemination
- e) Low-stress handling techniques
- f) Water source and cleanliness
- g) Availability of feed
- h) Identification
- i) Tail-docking (ultra-short in lambs)
- j) Mulesing
- k) Inspection and treatment frequency
- l) Implants

- m) Weaning strategies (early weaning-dairy)
- n) Understanding how to assess the health of all animals in different production settings

T9B3-
K5 Housing

Specifics to be addressed:

- a) Pen floor management (mounds, manure harvesting, mud prevention, etc)
- b) management during weather extremes (rainfall events, blizzards, high temperature)
- c) Housing for sick or injured cattle (hospital pen management)
- d) Bunk space requirements
- e) Stocking densities (differences in geographical location)
- f) Air quality (dust)
- g) Confinement operations (tail tip necrosis, gestation crates)
- h) Outdoor confinement facilities (feedlots, bedding and pen comfort)
- i) Types of flooring (lameness issues, injuries)
- j) Temperature control
- k) Calf housing (hutches, crates, veal calf)

T9B3-
K6 Locomotion

Specifics to be addressed:

- a) Lameness (facility design and injury, handling techniques and toe abscesses)
- b) Locomotion scores
- c) Care of downed animals
- d) Laminitis

T9B3-
K7 Production enhanced technologies/regulations

Specifics to be addressed:

- a) Metabolic modifiers (steroid implants, beta-agonists, BST, etc.)
- b) Ionophores
- c) Feed-grade antibiotics (prevention of BRD, liver abscesses, etc.)
- d) Organic regulations
- e) Immunocastration

T9B3-
K8 Availability of medications

Specifics to be addressed:

- a) Veterinary-client-patient relationship
- b) Treatment, processing protocols and withdrawal

T9B3- Handling procedures/techniques

K9

Specifics to be addressed:

- a) Low stress animal handling techniques
- b) Facility design for handling animals
- c) Movement of downed animals
- d) Restraint of animals for treatment and care
- e) Loading and unloading of animals onto trailers
- f) Handling techniques and equipment (prods)
- g) Personnel training programs (Trucker Quality Assurance)

T9B3- Feeding practices
K10

Specifics to be addressed:

- a) Use of body condition score to assess welfare (relative to sex, reproductive status, and nutrient availability)
- b) Understanding of different production units and nutrition (i.e. forage/pasture, confined, etc.)
- c) Feed bunk management
- d) Quality of available feedstuffs (feeding moldy or contaminated feeds)
- e) Availability of feeding space
- f) Water availability
- g) Feeding strategies
- h) Iron and roughage for veal calves

T9B3- Behavior
K11

Specifics to be addressed:

- a) Signs of distress in different species
- b) Signs of medical disorders (digestive disorders, lameness)
- c) Group behavior versus individual animal behavior
- d) Fear tests
- e) Buller steer
- f) Stereotypic behaviors, aggression, oral suckling, cannibalism, dunging patterns
- g) Enrichment strategies

4. Equids

The ability to address these key precepts requires knowledge of:

T9B4- Health issues
K1

Specifics to be addressed:

- a) Therapeutic medications in racehorses and non racehorses
- b) Wastage/breakdowns

- c) Euthanasia/end of life/disposal
- d) Laminitis and lameness
- e) Soring
- f) Doping
- g) Bleeders
- h) Tail blocking, tail cutting
- i) Malnutrition
- j) Colic

T9B4- Management and husbandry practices
K2

Specifics to be addressed:

- a) b) PMU farms
- c) Housing
- d) Tail docking, weighted shoes
- e) Weaning strategies
- f) Horses in urban environments

T9B4- Nutrition
K3

Specifics to be addressed:

- a) Creep feeding
- b) Malnutrition, starvation and neglect

T9B4- Transportation issues
K4

Specifics to be addressed:

- a) Processing for horse slaughter
- b) USDA standards (double deck trailers)
- c) Downer horses
- d) Private transport
- e) Air and sea transport

T9B4- Unwanted horses
K5

Specifics to be addressed:

- a) Economic pressures
- b) Abandonment
- c) Fate of animals

T9B4- Exhibition/Showing/Work Horses
K6

Specifics to be addressed:

- a) Rodeos
- b) Injuries

- c) Therapeutic riding facilities
- d) Carriage horses in cities
- e) Endurance/performance horses
- f) Equids used in tourist industries; regulations which cover them
- g) Pulling horses
- h) Three-day eventing
- i) Racing
- j) Polo
- k) Exhibition (circuses, dressage)

T9B4-
K7 Rescues following disasters, rescue organizations

Specifics to be addressed:

- a) Response planning, mitigation, support actions
- b) Training of personnel

T9B4-
K8 Free-ranging equids

Specifics to be addressed:

- a) Mustangs, BLM donkeys and mules, others
- b) Quality of life
- c) Habitat destruction

T9B4-
K9 Behavior

Specifics to be addressed:

- a) Stereotypies
- b) Eating disorders
- c) Drinking disorders
- d) Environmental enrichment
- e) Aggression (hormonal influences, social influences)
- f) Handling and training techniques (imprinting)

5. Laboratory animals:

The ability to address these key precepts requires knowledge of:

T9B5-
K1 Ethics of the use of animals in research, testing and education

Specifics to be addressed:

- a) Chimpanzees and other nonhuman primates
- b) Use of random source dogs
- c) Harvesting animals from the wild
- d) Field and observational studies
- e) Disposition (reuse, adoption)

- f) Application of the 3Rs
- g) Issues concerning the use of neonatal animals
- h) Canine tooth reduction

T9B5- Safety testing
K2

Specifics to be addressed:

- a) Alternatives to safety testing and their validation
- b) Vaccine potency testing models
- c) Federal requirements (FDA)
- d) Offshoring of testing
- e) Testing bans
- f) OECD guidelines

T9B5- Housing
K3

Specifics to be addressed:

- a) Special housing
- b) Housing density
- c) Enrichment
- d) Stress associated with housing
- e) Social housing
- f) Mixed species housing
- g) Primary enclosure design
- h) Canine exercise requirements
- i) Sanitation (method, frequency)
- j) Ambient environment on a species-specific basis

T9B5- Welfare issues associated with experimentation
K4

Specifics to be addressed:

- a) Regulatory requirements for minimization and consideration of alternatives to painful or distressful procedures
- b) NRC reports (pain, distress, Guide)
- c) Humane endpoints (including development and validation)
- d) Species-unique considerations
- e) Issue of control animals that do not receive treatment or analgesia
- f) Issues concerning animals that do not receive analgesia in painful procedures
- g) Concerns associated with pain research

T9B5- Legislative and regulatory issues
K5

Specifics to be addressed:

- a) Animals not covered by regulations (rats, mice and birds)
- b) Psychological well-being, canine exercise
- c) Stem cell research
- d) USDA Policies
- e) Public Health Service Policy on Humane Care and use of Animals

T9B5- Qualifications and training
K6

Specifics to be addressed:

- a) Research staff and educators
- b) Animal care staff
- c) IACUC
- d) Veterinarian

T9B5- Welfare aspects of animal models
K7

Specifics to be addressed:

- a) Transgenics
- b) Metabolic
- c) Addiction
- d) Psychology
- e) Chronic toxicity and cancer (tumor)
- f) Neuroscience
- g) Infectious agents/Select Agent studies
- h) Pyrogenicity

T9B5- International issues
K8

Specifics to be addressed:

- a) Offshoring
- b) Global harmonization of animal care and use practices
- c) European influence (e.g., Council Directive)
- d) OIE
- e) Codes of Practice
- f) Sources of animals (e.g., primate breeding)
- g) Validation and implementation
- h) Adequate veterinary medical training in laboratory animal medicine

T9B5- Animal disposition
K9

Specifics to be addressed:

- a) Sanctuaries (retirement of older research animals [Joanne])
- b) Adoption programs

T9B5- Euthanasia (including CO2)
K10

- d) Re-use

e) Warehousing

Behavior

Specifics to be addressed:

a) Animal training

6. Zoo Animals:

The ability to address these key precepts requires knowledge of:

T9B6-
K1

Housing/Habitat

Specifics to be addressed:

- a) Individual species needs
- b) Individual space needs
- c) Provision of enrichment
- d) Individual, social, diverse species assemblages
- e) Climatic restrictions
- f) Restraint
- g) Aquatic habitats
- h) Public contact / barriers
- i) Animal privacy from public view
- j) Live feeding

T9B6-
K2

Conservation issues

Specifics to be addressed:

T9B6-
K3

Population control

Specifics to be addressed:

- a) Genetics
- b) Culls
- c) Disposition of surplus animals (e.g., canned hunts), zoo trades animal to vendor, vendor sells to private individuals, exotic animal auctions)
- d) Transport of animals to breed, genetic diversity
- e) Birth control
- f) Euthanasia

T9B6-
K4

Sourcing of animals

Specifics to be addressed:

- a) Wild caught
- b) Captive bred
- c) Exotic animal auctions

T9B6- Environmental enrichment
K5

Specifics to be addressed:

- a) Ethogram or otherwise scientifically based measures of assessment
- b) Species specific, targeted strategies (hiding food)
- c) Special needs species (Cetaceans, pinnepeds, primates, elephants)

T9B6- Interactive programs
K6

Specifics to be addressed:

- a) Petting zoos
- b) Ride the elephants, (camels
- c) "Swim with" programs for dolphins, rays
- d) Zoo animals taken to public venues (classroom, symphonies)
- e) Training of personnel
- f) Zoonotic disease
- g) Recognition of signs of stress

T9B6- Behavior
K7

Specifics to be addressed:

- a) Wild or natural state vs. captive state
- b) Training as a form of enrichment
- c) Training for veterinary procedures
- d) Stereotypic behaviors

T9B6- Exchange of animals among facilities
K8

Specifics to be addressed:

- a) Disrupting family groups
- b) Professional association guidelines (AZA, etc)
- c) Logistical problems (inconsistent requirements can vary by lender or receiver, interstate regulations can delay shipments)
- d) Transport issues
- e) Exchanges to maintain genetic diversity of a species

7. Aquatic Animals:

The ability to address these key precepts requires knowledge of:

T9B7- Harvesting and collecting
K1

Specifics to be addressed:

- a) Methods of harvesting and killing
- b) Impact on species survival (sturgeon, shark fin, whales, dolphins, sea turtles)
- c) By-catch
- d) Stunning

T9B7- Injury/Trauma
K2

Specifics to be addressed:

- a) Injuries resulting from boats (manatees, turtles)
- b) Entanglements and ingestion of flotsam and jetsam (whales, sea turtles, etc.)
- c) Pain in fish

T9B7- Fishing welfare guidelines
K3

Specifics to be addressed:

- a) Catch/release
- b) Sport vs. commercial
- c) Habitat impact
- d) By-catch impact
- e) Population impact
- f) Handling of fish after caught
- g) Pain (hook size)

T9B7- Confinement raising of pet/exhibition fish
K4

Specifics to be addressed:

- a) Source of founders
- b) Management of facilities
- c) Guidelines for the buying public (care, disposal, etc.)
- d) Crowding
- e) Health screening
- f) Cull and replace vs. maintain individuals
- g) Siamese fighting fish individually contained

T9B7- Habitat
K5

Specifics to be addressed:

- a) Water quality

- b) Water discharge
- c) Disinfection technology
- d) Ambient environment

T9B7- Surplus animal disposition
K6

Specifics to be addressed:

- a) Professional guidelines (e.g., AZA)
- b) Oversight
- c) Education
- d) Sale to vendors into private trade

T9B7- Sourcing and effect upon wild populations
K7

Specifics to be addressed:

- a) Methods of collection
- b) Impacts on habitat, by-catch, population
- c) Chain of custody and care throughout
- d) Overharvesting
- e) Disruptions during breeding season

T9B7- Environmental enrichment
K8

Specifics to be addressed:

- a) Objective measures of assessment
- b) Habitat complexity

T9B7- Interactive program
K9

Specifics to be addressed:

- a) Animal touch programs – confined environments (e.g., swim with the dolphins, ray pools)
- b) Animal touch program -swim with the free-ranging animal programs (dolphins, sharks)

T9B7- Live prey feeding
K10

Specifics to be addressed:

T9B7- Pain perception
K11

Specifics to be addressed:

- a) Anesthesia and analgesia- research and field studies
- Euthanasia

T9B7-
K12

Specifics to be addressed:

- a) Accepted methods based on taxa
- b) In field situation vs controlled environments

T9B7- Non-indigenous species
K13

Specifics to be addressed:

- a) Prevention of introduction of non-natives
- b) Mitigation strategies

8. Aquaculture and fisheries:

The ability to address these key precepts requires knowledge of:

T9B8- Stocking procedures
K1

Specifics to be addressed:

- a) Industry standards
- b) Disease management
- c) Oversight
- d) Effluent management/control
- e) Source of stock
- f) Mitigation plans for release of non-natives
- g) Habitat impact
- h) Crowding

T9B8- Habitat management
K2

Specifics to be addressed:

- a) Marine protected areas
- b) Artificial reefs
- c) Mitigation of harmful fishing practices (e.g., bottom-trawl nets)
- d) TED (Turtle excluder devices)
- e) Water quality (effluent management/control, ballast water management)
- f) Mitigation plans for release of non-natives

T9B8- Invasive species
K3

Specifics to be addressed:

- a) Plans for prevention of introduction
- b) Mitigation plans

Sustainability of wild species

T9B8-
K4

Specifics to be addressed:

- a) Fishery management plans
- b) International accords and conventions (e.g., CITES)
- c) Habitat restoration and/or preservation
- d) Public education programs (e.g., sustainable seafood cards)

T9B8- Harvesting and holding techniques
K5

Specifics to be addressed:

- a) Fishery methods (long-line fishing, trawl, "ghost nets")
- b) By-catch
- c) On board practices for Handling (sorting, packing, freezing,)

T9B8- By-catch
K6

Specifics to be addressed:

- a) By-catch reduction plans
- b) Policy and legislation
- c) Targeted fisheries (e.g., trap caught shrimp)
- d) Education programs (e.g., 1 pound of shrimp for every 10 pounds of animals caught)

T9B8- Impact of aquaculture facilities on local habitat and adjacent wild populations
K7

Specifics to be addressed:

- a) Introduction of non-natives
- b) Introduction of diseases
- c) Facility out-flow - nutrient load, chemical and biological waste

9. Wildlife/Exotic Animals:

The ability to address these key precepts requires knowledge of:

T9B9- Wildlife as pets
K1

Specifics to be addressed:

- a) Laws and regulations
- b) Source of animals (Captive bred vs. wild caught)
- c) Zoonotic disease/human safety
- d) Disposition (e.g., my python got too big)
- e) Education
- f) Management practices (removal or reduction of canine teeth in captive)

nonhuman primates or exotic and wild (indigenous) carnivores, declawing captive exotic and wild (indigenous) cats)

T9B9-
K2 Hunting and trapping

Specifics to be addressed:

- a) Types of traps (leg hold, drown, humane alternatives)
- b) Canned hunts
- c) Trapping nuisance urban wildlife
- d) Hunting techniques (bow, dog, helicopter)
- e) Hunter skill level
- f) Wildlife management

T9B9-
K3 Removal of antlers (velveting)

Specifics to be addressed:

- a) Restraint
- b) Techniques
- c) Analgesia

T9B9-
K4 Nuisance animal control

Specifics to be addressed:

- a) Prevention and mitigation strategies (culling, sterilization)
- b) Urban white tailed deer, Alligators, bears, armadillos, feral pigs, raccoons, coyotes, bobcats, Canada goose, and others
- c) Legislation

T9B9-
K5 Conservation issues facing individual species

Specifics to be addressed:

T9B9-
K6 Competing interests

Specifics to be addressed:

- a) Examples (Navy sonar and whales, urban sprawl)
- b) Oversight entities and applicable legislation (e.g., the MMPA in the case of sonar, or the ESA)
- c) Education
- d) Endangered species in urban landscape (cougars, wolves)

T9B9- Repatriation into the wild
K7

Specifics to be addressed:

- a) Standards (e.g., IUCN standards on re-introduction)
- b) Reintroduction of predator species (environmental and economic issues)
- c) Unpredicted consequences

T9B9- d) Habitat loss and degradation
K8

Specifics to be addressed:

- a) Impact on populations
- b) Increase in harmful interaction between wild species and humans

10. Animals in Entertainment and Exhibition:

The ability to address these key precepts requires knowledge of:

T9B10- Regulations and oversight
K1

Specifics to be addressed:

- a) Animals in entertainment (film and television industry, circuses, marine mammals shows)
- b) Animals used in competition
- c) Regulations and oversight
- d) Animals as prizes or gifts
- e) Mascot care and management
- f) Animal fighting

11. Animals in Education:

The ability to address these key precepts requires knowledge of:

T9B11- Regulation and oversight and special concerns
K1

Specifics to be addressed:

- a) Animals in the classroom

- b) Science fairs
- c) Agricultural organizations using animals
- d) Source of cadavers
- e) Non-animal alternatives

12. Working and Assistance Animals:

The ability to address these key precepts requires knowledge of:

T9B12- Special work associated risks
K1

Specifics to be addressed:

- a) Working animals (police dogs, ranch horses, cattle/sheep dogs, guard dogs, dolphins/seals used by the Navy, carriage horses, search and rescue dogs, ATF dogs, drug detection dogs, sled dogs. should dogs used for hunting wild boar, et al be included?
- b) Therapy, resident and visiting animals
- c) Service animals (guide dogs, seizure dogs, helping hands non-human primates)

C. Current Topics:

The ability to address these key precepts requires knowledge of:

T9C-K1 Emerging or Current Topic not ready for a species specific heading:

Specifics to be addressed:

T9C-K2

Specifics to be addressed:

T9C-K3

Specifics to be addressed:

T9C-K4

Specifics to be addressed:

Example Animal Welfare Activities Log

ROLE DELINEATION DOCUMENT TASKS

Tasks	Date	Method of meeting task (provide course description if used to meet task)	Location	Mentor/Sp eaker/ Instructor
egTask 1– Concepts and history of animal welfare (AW): egT1-K1 Concepts of animal welfare and rights and similarities/differences thereto	00/00/00	Course work, training on institutional animal care committee	University	Dr. X
		Phil 893-advanced seminar	University	Dr. A
Task 1– Concepts and history of animal welfare (AW):				
	Summer 2007	RGS 6036 Ethics for Decision Making	Amberton University	
	Aug-07	The Veterinary Practitioner, Community, and Human Health: The emerging role of the veterinarian and the changing world of human medicine	PVMA Keystone Veterinary Conference	Henning
	Aug-07	Practical tools to integrate family and veterinary medicine: Pets in the family life cycle and family genogram	PVMA Keystone Veterinary Conference	Hodgson
	Aug-07	Immunocompromised human patients and their pets	PVMA Keystone Veterinary Conference	Julian
	Aug-07	One medicine: Linking veterinary medicine and human medicine to address the challenges of the 21st century	PVMA Keystone Veterinary Conference	Kahn
	Mar-11	Why is it so hard to think straight about animals?	PRIMR IACUC Conference	Hal Herzog
	Mar-12	Keynote Address	PRIMR IACUC Conference	Bernard Rollin
	Mar-07	Caring for Animals in a World of Changing Values	PRIMR IACUC Conference	David Fraser
	Jun-08	Societal Expectations: Ethics, Politics, Opinion, & Policy	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Margaret Foster Riley
T1-K2 Concepts of animal needs	Jul-06	Animal Health Standards	AVMA Convention	David Fraser
T1-K3 Concept of the Five Freedoms	Jul-06	Five Freedoms: Laboratory Animals	AVMA Convention	Stuart Leland
T1-K4 Concept of the 3 R's (Reduction, Replacement and Refinement)	2001 - 2005	Service on IACUC - Veterinary Member	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	

T1-K5 Society's changing perceptions toward animals	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Training of Investigators and research support personnel on 3Rs; Training of area middle and high school teachers on 3Rs	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair	Elm Hill Breeding Labs	
	2009	Achieved certification as a Professional IACUC Administration	PRIMR	
	Aug-07	Animal Welfare Aspects	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	
	Mar-10	Refinement: The Amazing Third R	PRIMR IACUC Conference	J. Michael Wyss, George Babcock, Diana Scorpio, Michael Talcott
	Oct-11	History of Animal Welfare	AALAS National Convention	Lesley Colby
	Apr-12	Refining Anesthetic Protocols	TurnKey Conference	Cholawat Pacharinsa k
	Mar-07	A Conversation on the Three Rs	PRIMR IACUC Conference	Taylor Bennett, Andrew Rowan
	Jul-06	Societal Trends	AVMA Convention	Tim Morris
	Jun-08	The Three Rs and Animal Welfare	NABR Communication & Collaboration, An International Forum for Animal Research Policy	David Smith
	Jun-08	Societal Expectations: Ethics, Politics, Opinion, & Policy	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Margaret Foster Riley
	Aug-03	The Ethics Dialogue - An Activity on Ethics in Animal Studies	LAWTE Biennial Conference	Agnetha Roswall,
	Aug-07	The Veterinary Practitioner, Community, and Human Health: The emerging role of the veterinarian and the changing world of human medicine	PVMA Keystone Veterinary Conference	Henning
	Aug-07	Practical tools to integrate family and veterinary medicine: Pets in the family life cycle and family genogram	PVMA Keystone Veterinary Conference	Hodgson
	Aug-07	Immunocompromised human patients and their pets	PVMA Keystone Veterinary Conference	Julian
	Jul-06	Societal Trends	AVMA Convention	Tim Morris
	Oct-11	History of Animal Welfare	AALAS Convention	Lesley Colby
	Mar-11	Why is it so hard to think straight	PRIMR IACUC	Hal Herzog

T1-K6 Organizations/Agencies responsible for and/or impacting AW	Mar-12	about animals? Keynote Address	Conference PRIMR IACUC Conference	Bernard Rollin
	Mar-07	Preventing Pandemics: Bird Flu and Other Emerging Zoonoses	PRIMR IACUC Conference	Michael Gregor
	Mar-04	Animal Welfare: Good Sense, Good Science, Good Business, and it's the right thing to do	PRIMR IACUC Conference	James Foster
	Jul-06	Animal Health Standards	AVMA Convention	David Fraser
	Mar-07	Caring for Animals in a World of Changing Values	PRIMR IACUC Conference	David Fraser
	Jun-08	Societal Expectations: Ethics, Politics, Opinion, & Policy	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Margaret Foster Riley
	Fall 1994	Veterinary Philosophy 465, Reverence for Life	Washington State University	Leo K Bustad
	2001 - Current	Membership in AALAS; Leadership roles have included Committee Member and Committee Chair	AALAS	
	1997 - Current	Membership in the American Veterinary Medical Association; Leadership roles have included service in the AVMA Legislative Advisory Committee (2006 - 2012) and House of Delegates (2009 - Current)	AVMA	
	2005 - 2009	Training sessions	Covance Research Products	
	Nov-08	Animal Rights goes Mainstream	AALAS National Meeting	John Young
	Feb-07	Confronting the Challenges to Animal Research: Why We Need a Blueprint for Change	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Bruce Kennedy
	Feb-07	New Tactics and Strategies of Animal and EcoTerrorist Groups: An Update and Overview of Criminal Investigations	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Joe Lehr
	Jul-06	Animal Rights	AVMA Convention	Taylor Bennett
	Oct-11	History of Animal Welfare	AALAS National Meeting	Lesley Colby
	Apr-12	Threats to Biomedical Research on the Legal Front	TurnKey Conference	Andrew Cardon
	Mar-07	New Congress - New Legislation: The Far Bill, The AETA, and More	PRIMR IACUC Conference	Mary Hanley, Andrew Rowan, Susan Silk
	Mar-07	Four Legs Good, Two Legs Better: Why the Ideology of Animal Rights Threatens Ethical Medical Research	PRIMR IACUC Conference	Wesley Smith
	Nov-05	Anti-Cruelty Laws: Impact on Biomedical Research	AALAS National Meeting	John Young
	Oct-08	Presentations given to the NRC Committee on Scientific and Humane Issues in the Care and Use of Random Source Dogs and Cats in Research	National Research Council	Ron DeHaven, Cathy Liss, Jerry DePoyster,

				David Kass, Margaret Snyder, Bill Yates
T1-K7 Global Perspectives	2006 - 2009	Membership in global animal welfare group; worked on collaborative projects with English and EU colleagues on developing animal welfare statements and procedures	Covance Research Products	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	Jun-08	World Rabbit Congress attendee	World Rabbit Congress	
	May-11	Animal Transport in the EU	Animal Transportation Association	Andrea Gavinelli
	May-11	Transit Through EU: View from customs & veterinary side - Traceability during transport	Animal Transportation Association	Albert Duhr, Guillaume Schmitz
	May-11	Long Haul Transportation - NHP Import Process	Animal Transportation Association	Candace Heining
	Jun-08	The Global Environment for Animal Research: Opportunities and Challenges	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Phillip Wright
	Jun-08	Science & Public Policy Panel (UK and European Processes)	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Judy MacArthur
	Jul-06	Globalization: Overview & Perspective	AVMA Convention	Clark; Friedhelm Vogel
	Jul-07	Animal Health Standards	AVMA Convention	Deane Neubauer
	Aug-03	The Ethics Dialogue - An Activity on Ethics in Animal Studies	LAWTE Biennial Conference	David Fraser Agnetha Roswall,
T1-K8 Decision-making processes regarding animal care and use	2001 - 2005	Service on IACUC - Veterinary Member	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Training of Investigators and research support personnel on IACUC procedures and policies; Responsible for developing and implementing IACUC policies and procedures	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair; Responsible for developing and implementing IACUC policies and procedures	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Responsible for developing and implementing IACUC policies and procedures	Absorption Systems	

	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Responsible for developing and implementing IACUC policies and procedures	Elm Hill Breeding Labs	
	2009	Achieved certification as a Professional IACUC Administration	PRIMR	
	Mar-06	Creating a Culture in Which Ethical Review of Protocols and Animal Research Can Flourish	PRIMR IACUC Conference	Bernard Rollin
	Mar-11	Aging & Ethical Research in Animals; Highly Compatible?	PRIMR IACUC Conference	Stuart Zola
	Mar-11	Why is it so hard to think straight about animals?	PRIMR IACUC Conference	Hal Herzog
	Aug-03	The Ethics Dialogue - An Activity on Ethics in Animal Studies	LAWTE Biennial Conference	Agnetha Roswall,
Task 2 – Ethical Issues:				
T2-K1 Philosophical principles	Summer 2007	RGS 6036 Ethics for Decision Making	Amberton University	
	Mar-06	Creating a Culture in Which Ethical Review of Protocols and Animal Research Can Flourish	PRIMR IACUC Conference	Bernard Rollin
	Mar-07	Ethics and the Public Research University	PRIMR IACUC Conference	David Skorton
	Mar-07	Advancing Animal Welfare: Depolarizing the Debate	PRIMR IACUC Conference	Martin Stephens, John Miller, William White
	Aug-03	The Ethics Dialogue - An Activity on Ethics in Animal Studies	LAWTE Biennial Conference	Agnetha Roswall,
T2-K2 Cultural, societal, and religious perspectives affecting animals	Jul-06	Societal Trends	AVMA Convention	Tim Morris
	Mar-11	Why is it so hard to think straight about animals?	PRIMR IACUC Conference	Hal Herzog
	Mar-07	Preventing Pandemics: Bird Flu and Other Emerging Zoonotic Diseases	PRIMR IACUC Conference	Michael Gregor
	Mar-07	Caring for Animals in a World of Changing Values	PRIMR IACUC Conference	David Fraser
T2-K3 Stewardship	2006 - 2012	Membership in AVMA's Legislative Advisory Committee (LAC); Spoke to lawmakers regarding horse slaughter at multiple meetings; Helped develop AVMA policy on horse slaughter legislation	AVMA	
T2-K4 Quality of life	2001 - 2005	Attending Veterinarian	Toxikon Corporation	
	2003 - 2005	Attending Veterinarian	Joslin Diabetes Center	
	2001 - 2008	Attending Veterinarian & Consultant	Elm Hill Breeding Labs	
	2011 - Current	Director, Preclinical Affairs - Manage Attending Veterinarian	Absorption Systems	
T2-K5 Population management	2011 - Current	Animal Welfare Committee Member	CVMA	
	Jul-06	Introduced Species: Pathogen	AVMA Convention	David

		Pollution		Jessup
T2-K6 Reproductive Management	2003 - 2005	Attending Veterinarian	Joslin Diabetes Center	
	2001 - 2003	Attending Veterinarian	Elm Hill Breeding Labs	
	Jun-08	Methods, Criteria, Techniques, and Genetic Responses for Rabbit Selection	World Rabbit Congress	
	Jun-08	An Enterprise Gross Margin Model to Explore the Influence of Selection Criteria for Breeding Programs and Changes to Management Systems	World Rabbit Congress	
	Jun-08	Divergent election for Longevity in Breeding Does	World Rabbit Congress	
	Jun-08	Preliminary Results in a Divergent Selection Experiment on Variant Litter Size in Rabbits	World Rabbit Congress	
	Jun-08	Genetics of Maternal strategies in a new Synthetic Rabbit Line under Selection	World Rabbit Congress	
T2-K7 Emerging animal technologies	May-05	Overview of Transgenic Technology	Harvard Medical School	Willie Mark
	Apr-03	Making a pig of yourself - How close are we to the transplantaion of pig organs into humans	CATO Research	David Cooper
T2-K8 Oversight processes	2001 - 2005	Service on IACUC - Veterinary Member	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Training of Investigators and research support personnel on IACUC procedures and policies; Responsible for developing and implementing IACUC policies and procedures	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair; Responsible for developing and implementing IACUC policies and procedures	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Responsible for developing and implementing IACUC policies and procedures	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Responsible for developing and implementing IACUC policies and procedures	Elm Hill Breeding Labs	
	2009	Achieved certification as a Professional IACUC Administration	PRIMR	
	1997 - 2001	Small Animal Practitioner - Enrolled client animals in clinical trials	Animal Health Services; Banfield The Pet Hospital	
	2002	IACUC 101	ARENA	
	Mar-09	AAALAC International Conference on Quality Animal Care	AAALAC International	John Bradfield; William Dale
	Mar-09	IACUC Conference	PRIMR IACUC Conference	
	Mar-07	IACUC conference	PRIMR IACUC Conference	
	Mar-10	An Informal Conversation About Procedure-Based versus Project-Based Protocols	PRIMR IACUC Conference	March Brown, Jeff Everitt,

			Joseph Thulin
Mar-09	IACUC Oversight of Investigator Education & Training	PRIMR IACUC Conference	Cynthia Pekow, Sylvia Gografe
Mar-09	Issues for Industry Programs	PRIMR IACUC Conference	Cindy Hoorn, Gothro
Oct-06	Conducting a Program Review	Best Practices for IACUC Administrators	Bill Greer
Oct-06	How to Conduct Semi-Annual Site Inspections	Best Practices for IACUC Administrators	Bill Greer
Oct-06	Whistle Blowing/Noncompliance; IACUC Investigations - Suspensions - Reporting (IO, OLAW, USDA, AAALAC)	Best Practices for IACUC Administrators	Ron Banks
Oct-06	IACUC Protocols, Modifications, and Annual Reviews	Best Practices for IACUC Administrators	Sally Light
Oct-06	IACUC Protocol and Grant Congruency	Best Practices for IACUC Administrators	Don Workman
Oct-06	Collaboration with other Institutions	Best Practices for IACUC Administrators	Jessica Durkin
Oct-06	Tracking Animal Use on Protocols	Best Practices for IACUC Administrators	Heidi Duffy
Apr-06	IACUC 201	OLAW & Virginia Commonwealth University	
Oct-11	Post Approval Monitoring: Lessons Learned	AALAS National Meeting	
Mar-04	USDA and the Inspection Process: Federal Oversight	PRIMR IACUC Conference	
Mar-04	OLAW/PHS: More Federal Oversight	PRIMR IACUC Conference	
Mar-04	External Oversight and How It Is Provided	PRIMR IACUC Conference	
Mar-04	Internal Oversight and How It Is Provided	PRIMR IACUC Conference	
Mar-11	Oversight Updates: OLAW, USDA, & AAALAC International	PRIMR IACUC Conference	Patricia Brown, Betty Goldentyer, Chris Newcomer, Gregory Parham
Mar-11	IACUC 101 (Advanced); IACUC Responsibilities	PRIMR IACUC Conference	Mary Lou James, Monte Matthews
Mar-12	Top 10 Deficiencies from the Perspectives of the USDA, OLAW, and AAALAC International	PRIMR IACUC Conference	Kathryn Bayne, Patricia Brown, Nicolette Petervary
Sep-11	IACUC CIC Conference: Collaborations - Implementation - Corporations: The Role of Ethics, Animal Law, Security, and Compliance in a Successful Research Program	CSBR	
Mar-12	Core Principles for the Oversight of Animal Research	PRIMR IACUC Conference	Margaret Landi

	Mar-04	Internal Oversight and How It Is Provided	PRIMR IACUC Conference	Lynn Anderson, Nancy Ator, David Adler, James Allen, Michael Breton, Andrew Rowan
	Mar-04	External Oversight: How it is provided	PRIMR IACUC Conference	Michael Ballinger, Kathryn Bayne, Dale Martin
	Nov-05	Post-Approval Monitoring: An Activity Whose Time Has Come	AALAS National Meeting	
	Nov-05	Post-Approval Monitoring: IACUC Perspective & Experience	AALAS National Meeting	Randall Reynolds
	Nov-05	Post-Approval Monitoring: Compliance Liaison: A Technologist's Perspective	AALAS National Meeting	Sonia Doss
	Nov-05	Post-Approval Monitoring: Compliance Liaison: A Veterinarian's Perspective	AALAS National Meeting	Julie Sharp
	Nov-05	Post-Approval Monitoring: A Researcher's Perspective	AALAS National Meeting	Stacey Snyder
	Nov-05	Post-Approval Monitoring: The Benefit of Working Towards a Compliant Program	AALAS National Meeting	
	Mar-04	The Art of Running a Successful IACUC Meeting	PRIMR IACUC Conference	Melissa Lewis
	Jun-07	Developing and Implementing a Post-Approval Monitoring Program	LAMA	Carolyn Malinkowski
T2-K9 Standards of care and use	2001 - 2005	Service on IACUC - Veterinary Member; Responsible for authoring and revising institutional SOPs to ensure compliance to government standards; Participated in visits from the USDA, FDA, MSPCA, DEA, EPA, and AAALAC	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member; Participated in USDA inspections	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Training of Investigators and research support personnel on IACUC procedures and policies; Responsible for developing and implementing IACUC policies and procedures; Responsible for authoring and revising institutional SOPs to ensure compliance to government standards; Main contact person for USDA, Pennsylvania Dog Bureau, USFWS, CDC, and AAALAC	Covance Research Products	

		visits;		
	2006 - 2009	Membership in global animal welfare group; worked on collaborative projects with English and EU colleagues on developing animal welfare statements and procedures	Covance Research Products	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair; Responsible for developing and implementing IACUC policies and procedures; Responsible for authoring and revising institutional SOPs to ensure compliance to government standards; Main point person for USDA and FDA inspections	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Responsible for developing and implementing IACUC policies and procedures; Responsible for authoring and revising institutional SOPs to ensure compliance to government standards; Main point person for USDA and AAALAC visits	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Responsible for developing and implementing IACUC policies and procedures; Responsible for authoring and revising institutional SOPs to ensure compliance to government standards; Directed AAALAC initial AAALAC accreditation program	Elm Hill Breeding Labs	
	2009	Achieved certification as a Professional IACUC Administration	PRIMR	
	Jun-08	World Rabbit Congress attendee	World Rabbit Congress	
	May-09	Animal Transportation Association attendee	Animal Transportation Association	
	2011 - Current	Animal Welfare Committee Member	CVMA	
	2006 - 2012	AVMA LAC Member	AVMA	
	Jun-08	The Global Environment for Animal Research: Opportunities and Challenges	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Phillip Wright
	Jun-08	Science & Public Policy Panel (UK and European Processes)	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Judy MacArthur Clark; Friedhelm Vogel
	Jul-09	Animal Health Standards	AVMA Convention	David Fraser
T2-K10 Societal Uses of Animals and Alternatives	2001 - 2005	Service on IACUC - Veterinary Member	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member	Joslin Diabetes Center	
	2004 -	Service on IACUC - Member	Harvard Medical School	

	2005			
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair	Elm Hill Breeding Labs	
	2009	Achieved certification as a Professional IACUC Administration	PRIMR	
	Jun-08	World Rabbit Congress attendee	World Rabbit Congress	
	2011 - Current	Animal Welfare Committee Member	CVMA	
	2006 - 2012	AVMA LAC Member	AVMA	
	Feb-08	ICCVAM and NICEATM: The First Ten Years	ICCVAM & NICEATM	William Stokes
	Feb-08	The NICEATM-ICCVAM Five-Year Plan: A Vision Towards the Future	ICCVAM & NICEATM	Marilyn Wind and Andrew Rowan
	Feb-08	The Evolution of Toxicology: Where We've Come From and Future Prospects	ICCVAM & NICEATM	Bernard Schwetz
	Feb-08	Toxicology Testing in the 21st Century: A Vision and a Strategy - A Report of the National Research Council of the National Academies	ICCVAM & NICEATM	Daniel Krewski
	Feb-08	Future Directions in Test Method Research, Development, Translation, and Validation	ICCVAM & NICEATM	John Bucher, Harold Zenick, Janet Woodcock
	Feb-08	Panel Discussion - Test Method Research, Development, Translation, and Validation: The Way Forward for ICCVAM and its Stakeholders	ICCVAM & NICEATM	John Howard, Martin Stephens, Richard Becker, Michael Holsapple, George Corcoran, John Bailey, Hajime Kojima
	Jul-06	Societal Trends	AVMA Convention	Tim Morris
	Mar-07	Caring for Animals in a World of Changing Values	PRIMR IACUC Conference	David Fraser
Task 3 – Animal Welfare (AW) Assessment Considerations:				
T3-K1 Approaches to assessment of AW	Jul-06	Five Freedoms: Laboratory Animals	AVMA Convention	Stuart Leland

T3-K2 The design and conduct of scientific investigations to examine issues of AW	2007 - 2010	Ad hoc site visitor	AAALAC, International	
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	2009	Achieved certification as a Professional IACUC Administration	PRIMR	
	Mar-10	Refinement: The Amazing Third R	PRIMR IACUC Conference	J. Michael Wyss, George Babcock, Diana Scorpio, Michael Talcott Orchard
	Oct-04	Adjunctive Methods for Control of Stress and Discomfort in NHPs	AALAS National Meeting	
T3-K3 Health	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	2009	Achieved certification as a Professional IACUC Administration	PRIMR	
	Nov-08	Clinical Medicine & Appropriate endpoints for rodents (GLP studies)	AALAS National Meeting	Alex Wakefield
	May-06	Humane Endpoints for NHPs in Biomedical Research	District VII AALAS	Rick Lee
	Mar-05	Pushing Back on Endpoints	PRIMR IACUC Conference	Steve Neimi
	Sep-05	Humane Endpoints	AWEN Group	Michelle Cunneen
T3-K4 Physiology	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	

T3-K5 Behavior	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Mar-07	An update and discussion of recent advances in pain management	York-Adams Veterinary Medical Association	Duncan Lascelles
	Jul-06	Perioperative Pain Management	AVMA Convention	William Tranquilli
	Jul-06	Analgesic Drugs: What's New	AVMA Convention	William Tranquilli
	Apr-12	Refining Anesthetic Protocols	TurnKey Conference	Cholowat Pacharinsak
	Oct-04	Lessons from Human Pediatrics: Assessing Pain in Non-Verbal Infants and Children	AALAS National Meeting	Susan Senecal
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jul-11	Post-Traumatic Stress in Military Working Dogs	LAWTE Biennial Conference	
	Oct-07	Using Study Data & VMRs to Assess Retrospective Pain Categories for the USDA	AALAS National Meeting	Todd Jackson
	Oct-07	IACUC Procedures for Prospective Pain & Distress Categorization	AALAS National Meeting	Kathy Smiler
T3-K6 Animal care practices	Oct-04	Lessons from Human Pediatrics: Assessing Pain in Non-Verbal Infants and Children	AALAS National Meeting	Susan Senecal
	Feb-12	Development of a Model of Ocular Surface Pain/Discomfort	GTC Ocular Diseases & Drug Discovery	David Woodward
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	

	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	Apr-01	Web Based Training for Investigators	New England Branch of AALAS	Steve Jean
	Aug-07	Educating Researchers and Staff on Reducing Pain and Distress	LAWTE Biennial Conference: RePLAY Relive Pain in Laboratory Animals and Yourself	Paul Flecknell
	Aug-07	Panel Discussion: Competency and Proficiency Assessment	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	
	Aug-07	How to Train Employees about Animal Death and Human Emotion	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Marilyn Brown
	Aug-07	AAALAC Expectations for Animal Care Training Programs	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Jim Swearngen
	Aug-07	Reducing Stress During Handling	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Temple Grandin
	Apr-07	Evolution of Training and Education in Laboratory Animal Science	District 8 AALAS	Bruce Kennedy
	Mar-09	IACUC Oversight of Investigator Education & Training	PRIMR IACUC Conference	Cynthia Pekow, Sylvia Gografe
	Apr-06	Positive Reinforcement to Enhance the Care, Management, and Well-Being of Captive Animals	LAMA	Margaret Wittaker
	Oct-03	Implementing a Training and Humane Care Program	New England Branch of AALAS	Kathleen Pritchett
	Mar-04	The Art of Training Animals	New England Branch of AALAS	Sam Qudsieh
Task 4 – Animal Environments				
T4-K1 Housing and habitat	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	

T4-K2 Environmental complexity	Jun-08	World Rabbit Congress attendee	World Rabbit Congress	Cecile Boccanale Ron Banks
	2006 - 2012	AVMA LAC member	AVMA	
	2011 - Current	Animal Welfare Committee member	CVMA	
	Mar-09	AAALAC International Conference on Quality Animal Care	AAALAC International	
	Apr-07	Design and Management of Laboratory Animal Medicine Facilities	TurnKey Conference	
	May-06	Increasing Rodent Cage Density in Existing Rooms	District VII AALAS	
	Oct-07	Excluding Opportunists: Implications for Housing & Management	AALAS National Meeting	
	Oct-04	Basic Animal Facility Planning & Design	AALAS National Meeting	
	Apr-04	Basic Guidelines for the Design and Development of Laboratory Animal Facilities	TurnKey Conference	
	Mar-08	Kennel Construction and Related Building Materials	USDA Canine Care Conference	
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	Don McKay, David Neil Robert Whiteley
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	Jun-08	World Rabbit Congress attendee	World Rabbit Congress	
	2011 - Current	Animal Welfare Committee member	CVMA	
	Nov-08	Regulatory Review and Case Studies Involving Enrichment	Environmental Enrichment Symposium	Patricia Brown Jean Geary
	Nov-08	Response to enrichment in an exotic species	Environmental Enrichment Symposium	
	Nov-08	Is the future of enrichment evaluation scientifically sound?	Environmental Enrichment Symposium	
	Nov-08	Improving environments for rodents used in science	Environmental Enrichment Symposium	
	Apr-09	Environmental Enrichment	MSMR Environmental Enrichment Extravaganza	
T4-K3 Social dynamics	Feb-08	Research and Enrichment: Managing a Difficult Marriage		Temple Grandin Gary Fortier Kathryn Bayne
	Jun-01	Environmental Enrichment Techniques for Laboratory Animals	Charles River Short Course	
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	

T4-K4 Husbandry practices	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	Jun-08	World Rabbit Congress attendee	World Rabbit Congress	
	2011 - Current	Animal Welfare Committee member	CVMA	
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	Jun-08	World Rabbit Congress attendee	World Rabbit Congress	
	Aug-07	Reducing Stress During Handling	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Temple Grandin
	Nov-09	Transportation and Acclimation Considerations for Purpose-Breed Dogs and Puppies	AALAS National Meeting	Kimberley Cohen
	Nov-09	Transportation and Acclimation Considerations for Ferrets	AALAS National Meeting	Jill Ascher
	Nov-09	Transportation and Acclimation Considerations for SPF Minipigs	AALAS National Meeting	Simon Authier
	Nov-09	Transportation and Acclimation Considerations for Macaques	AALAS National Meeting	Luis Fernandez
Task 5 - The Role of the Veterinary Profession in Promoting AW:				
T5-K1 The AVMA AW Principles	2009 - Current	AVMA HOD Member	AVMA	
	2006 - 2012	AVMA LAC Member	AVMA	
T5-K2 Ethical, moral, and legal	2009 - Current	AVMA HOD Member	AVMA	

responsibilities	Jul-02	Addiction, Domestic Violence, and Animal Abuse	AVMA Convention	Meyerholz
T5-K3 Recommending care and use practices	2002 - Current	Presentations at various conferences and meetings	AALAS, AVMA, LAWTE, ATA, World Rabbit Congress, TriBranch of AALAS	
	1997 - 2001	Practitioner in private practice	Animal Health Services; Banfield the Pet Hospital	
	2006 - 2012	AVMA LAC member - Met with lawmakers several times; Participated in developing AVMA positions regarding legislation	AVMA	
	2007-2008	Media training; Wrote comments for state and federal legislation/regulation	Covance Research Products	
	Sep-09	Communications/Media training	Biological Test Center	
	Jul-11	Public Outreach	LAWTE Biennial Conference	Bocenegra
	Nov-08	Perspectives on Public Outreach Efforts: From Business to Academia	AALAS National Meeting	
	Jul-09	Communicating Effectively with the Media	AVMA Convention	Charlie Powell
	May-06	Outreach	District VII AALAS	Lorraine Hough, Gale Davy
	Feb-07	Public Outreach - Living Proof	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	
T5-K4 Participating in the legislative, regulatory and policy-setting process.	Feb-07	Building the Machine: A Communications How To Public Affairs, Media Relations, and Responding to Animal Groups	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Richard Bianca
	Feb-07	Media Training	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Donna Marie Artuso
	2006 - 2012	AVMA LAC member - Participated in developing AVMA positions regarding legislation	AVMA	
	2006 - 2009	Constructed written comments for state and federal legislation/regulation	Covance Research Products	
	2006 - 2008	Participated in lawmaker and PA FWS meetings	Pennsylvania Society for Biomedical Research (PSBR)	
	2011-2012	Chair of the LRAC; Wrote comments on behalf of ASLAP for comment on OLAW guidance statements	ASLAP	
	Jun-08	Animal Research - from the perspective of patients	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Maryze Schonevald van der Linde
	Jun-08	Effective Communication Programs to Convey the Benefits of Responsible Animal Research; Media, Stakeholders, Outreach	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Greg Miller, Alastair Kent, Simon Festing, Tom Holder, Paul McKellips, Jo Tanner
	Nov-08	Perspectives on Public Outreach Efforts: From Business to Academia	AALAS National Meeting	

T5-K5 Educating stakeholder groups, the media, and the public	May-06	Outreach	District VII AALAS	Lorraine Hough, Gale Davy
	Feb-07	Public Outreach - Living Proof	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	
	Feb-07	Being a part of the Legislative Process: Awareness and Participation	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Alice Ra'anan
	Feb-07	Building the Machine: A Communications How To Public Affairs, Media Relations, and Responding to Animal Groups	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Richard Bianco
	Apr-12	Threats to Biomedical Research on the Legal Front	TurnKey	Andrew Cardon
	May-11	Readiness & Response - Research and Reaching Out	CSBR/CBRA	Robert Bradford
	Dec-09	Regulatory Inspection Techniques & Best Practices	SoCalBio	Julie Finke
	2006 - 2008	Media training; Wrote comments for state and federal legislation/regulation; Educated middle and high school teachers on animal research	Covance Research Products; PSBR	
	Sep-09	Communications/Media training	Biological Test Center	
	Aug-07	Media training seminar	LAWTE Biennial Conference: RePLAY Relive Pain in Laboratory Animals and Yourself	
	Jul-11	Public outreach	LAWTE Biennial Conference	Bocenegra
	Jun-08	Animal Research - from the perspective of patients	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Maryze Schonevald van der Linde
	Jun-08	Effective Communication Programs to Convey the Benefits of Responsible Animal Research; Media, Stakeholders, Outreach	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Greg Miller, Alastair Kent, Simon Festing, Tom Holder, Paul McKellips, Jo Tanner
	Nov-08	Perspectives on Public Outreach Efforts: From Business to Academia	AALAS National Meeting	
	Jul-09	Communicating Effectively with the Media	AVMA Convention	Charlie Powell
	May-06	Outreach	District VII AALAS	Lorraine Hough, Gale Davy
	Feb-07	Public Outreach - Living Proof	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	
	Feb-07	Building the Machine: A Communications How To Public Affairs, Media Relations, and Responding to Animal Groups	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Richard Bianca
	Feb-07	Media Training	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Donna Marie Artuso

T5-K6 Disaster and emergency issues	Mar-12	Strategic Communications: Responses to Current Tactics Against Animal Research	Andrew cardon, Laura Conour, Charles Hogen, Andrew Rowan	
	May-11	Readiness & Response - Research and Reaching Out	CSBR/CBRA	Robert Bradford
	2006 - 2009	Developed disaster and emergency plans for multiple facilities; Business recovery (continuity) training and program development; Manage a mass depopulation of rabbitry due to a disease outbreak; Managed client communications during a disease outbreak at a major breeding facility	Covance Research Products	
	2001 - 2008	Developed disaster and emergency plan	Elm Hill Breeding Labs	
	2011 - 2012	Wrote disaster/emergency plan SOP	Absorption Systems	
	Jun-08	Security & Law Enforcement, Crisis Prevention: Injunctions and Civil Remedies	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Jared Freedberg, Ross Ellick, Walter Elnhorn
	Jun-08	Security & Law Enforcement, Crisis Prevention; Status Report on Animal Rights Matters Around the World (US, Canada, UK, Continental Europe, Asia/Pacific)	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Joe Persichini, David Smith, John Sancenito, Dennis Didyk, Steve Pearl, Christoffer Engberg, Edward Lueckenhof
	Apr-08	Surviving the Unthinkable, Are you Ready?	LAMA - Planning Today for a Greener Tomorrow: Getting it Right, Now	Lynell Dupepe
	Apr-08	Disaster Planning - It Could Happen to You	LAMA - Planning Today for a Greener Tomorrow: Getting it Right, Now	Regina Correa-Murphy
	Feb-12	Training on Texas' A&M's disaster response program, Tour of disaster response tents and FEMA trailers meant for the sole use of treating animals in a disaster	Texas Veterinary Medical Association/Texas A&M	
	Jul-08	Disaster Policy: Animal Decontamination	AVMA Convention	Lisa Murphy
	Mar-06	Hurricane Katrina Animal Rescue and Support	DVBAALAS	Susie Jendrowski, Eva Emmell
Task 6 - The Individual Veterinarian's Role in Promoting AW:				
T6-K1 Diagnosis, treatment and prevention of disease (both physiological	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	

and psychological):				
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jun-08 1997 - 2001	World Rabbit Congress attendee Private practitioner	World Rabbit Congress Animal Health Services; Banfield The Pet Hospital	
T6-K2 Recognition, assessment, prevention and management of pain	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jun-06	Visit to Noveprim in Mauritius (Non- human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	Oct-07	Using Study Data & VMRs to Assess Retrospective Pain Categories for the USDA	AALAS National Meeting	
	Mar-07	An update and discussion on recent advances in pain management	York-Adams Veterinary Medical Association	Duncan Lascelles
	Jul-06	Perioperative Pain Management	AVMA Convention	William Tranquilli
	Jul-06	Analgesic Drugs: What's New	AVMA Convention	William Tranquilli
	Oct-04	Lessons from Human Pediatrics: Assessing Pain in Non-Verbal Infants and Children	AALAS National Meeting	Susan Senecal
	Feb-12	Development of a Model of Ocular Surface Pain/Discomfort	GTC Ocular Diseases & Drug Discovery	David Woodward
T6-K3 Recognition, assessment, prevention and management of stress and distress	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for	Covance Research Products	

		1.1 years		
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jul-11	Post-Traumatic Stress in Military Working Dogs	LAWTE Biennial Conference	
T6-K4 Handling and restraint	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	Apr-01	Web Based Training for Investigators	New England Branch of AALAS	Steve Jean
	Aug-07	Educating Researchers and Staff on Reducing Pain and Distress	LAWTE Biennial Conference: RePLAY Relive Pain in Laboratory Animals and Yourself	Paul Flecknell
	Aug-07	Panel Discussion: Competency and Proficiency Assessment	LAWTE Biennial Conference: RePLAY Relive Pain in Laboratory Animals and Yourself	Jim Swearngen, Liz Dodemaide, Marc Hulin, Lori Bindley, William Singleton
	Aug-07	Reducing Stress During Handling	LAWTE Biennial Conference: RePLAY Relive Pain in Laboratory Animals and Yourself	Temple Grandin
	Aug-07	AAALAC Expectations for Animal Care Training Programs	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	
	Apr-07	Evolution of Training and Education in Laboratory Animal Science	District 8 AALAS	Bruce Kennedy
	Mar-09	IACUC Oversight of Investigator Education & Training	PRIMR IACUC Conference	Cynthia Pekow, Sylvia Gografe
	Oct-03	Implementing a Training and Human Care Program	Charles River Laboratories	Kathleen Pritchett
T6-K5 Acclimation, conditioning, and	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian;	Toxikon Corporation	

training		Study Director		
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jun-06	Visit to Noveprim in Mauritius (Non-human primate capture and breeding facility) to prepare the facility for AAALAC accreditation	Covance Research Products	
	Jun-08	World Rabbit Congress presentations	World Rabbit Congress	
	May-11	Animal Transportation Association meeting attendee	Animal Transportation Association	
	Apr-07	Design and Management of Laboratory Animal Medicine Facilities	TurnKey Conference	Ron Banks
	Oct-04	Basic Animal Facility Planning & Design	AALAS National Meeting	
	Apr-04	Basic Guidelines for the Design and Development of Laboratory Animal Facilities	TurnKey Conference	Don McKay and David Neil
	Mar-08	Kennel Construction and Related Building Materials	USDA Canine Care Conference	Robert Whiteley
T6-K6 Assessment of methods and recommendations for inducing animal death	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jul-11	Euthanasia: Parts & Process	AVMA National Convention	Steve Leary
	Jul-11	Ethical Construct for Euthanasia	AVMA National Convention	Raymond Anthony
	Apr-01	Web Based Training for Investigators	New England Branch of AALAS	Steve Jean
	Aug-07	How to Train Employees about Animal Death and Human Emotion	LAWTE Biennial Conference: RePLAY - Relieve Pain in Laboratory Animals and Yourself	Marilyn Brown
	Aug-07	Educating Researchers and Staff on Reducing Pain and Distress	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Paul Flecknell

	Aug-07	AAALAC Expectations for Animal Care Training Programs	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Jim Swearngen
	Nov-08	Clinical Medicine & Appropriate endpoints for rodents (GLP studies)	AALAS National Meeting	Alex Wakefield
	Apr-07	Evolution of Training and Education in Laboratory Animal Science	District 8 AALAS	Bruce Kennedy
	Mar-09	IACUC Oversight of Investigator Education & Training	PRIMR IACUC Conference	Cynthia Pekow, Sylvia Gografe
	May-06	Humane Endpoints for NHPs in Biomedical Research	District VII AALAS	Rick Lee
	Mar-12	Update on the AVMA Guide on Euthanasia	PRIMR IACUC Conference	Sam Cartner; Emily Patterson-Kane
	Mar-07	Pushing Back on Endpoints	PRIMR IACUC Conference	Steve Neimi
	Oct-03	Implementing a Training and Human Care Program	Charles River Laboratories	Kathleen Pritchett
	Aug-07	How To Train Employees about Animal Death and Human Emotion	LAWTE Biennial Conference: RePLAY Relive Pain in Laboratory Animals and Yourself	Marilyn Brown
T6-K7 Recognition, assessment and management of effects on animals associated with procedures.				
T6-K8 Disaster and emergency issues	2006 - 2009	Developed disaster and emergency plans for multiple facilities; Business recovery (continuity) training and program development; Managed a mass depopulation of rabbitry due to a disease outbreak; Managed client communications during a disease outbreak at a major breeding facility	Covance Research Products	
	2001 - 2008	Developed disaster and emergency plan	Elm Hill Breeding Labs	
	2011 - 2012	Wrote disaster/emergency plan SOP	Absorption Systems	
	Apr-08	Surviving the Unthinkable, Are you Ready?	LAMA - Planning Today for a Greener Tomorrow: Getting it Right, Now	Lynell Dupepe
	Apr-08	Disaster Planning - It Could Happen to You	LAMA - Planning Today for a Greener Tomorrow: Getting it Right, Now	Regina Correa-Murphy
T6-K9 Communication	2006 - 2008	Media training; Wrote comments for state and federal legislation/regulation; Educated middle and high school teachers on animal research	Covance Research Products; PSBR	
	Sep-09	Communications/Media training	Biological Test Center	
	Aug-07	Media training seminar	LAWTE Biennial Conference: RePLAY Relive Pain in Laboratory Animals and Yourself	
	2008	Science Fair judge	Montgomery County Science Research Competition	
	Jul-11	Public Outreach	LAWTE Biennial Conference	Bocenegra

	Jun-08	Animal Research - from the perspective of patients	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Maryze Schonevald van der Linde
	Jun-08	Effective Communication Programs to Convey the Benefits of Responsible Animal Research; Media, Stakeholders, Outreach	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Greg Miller, Alastair Kent, Simon Festing, Tom Holder, Paul McKellips, Jo Tanner
	Nov-08	Perspectives on Public Outreach Efforts: From Business to Academia	AALAS National Meeting	
	Jul-09	Communicating Effectively with the Media	AVMA Convention	Charlie Powell
	May-06	Outreach	District VII AALAS	Lorraine Hough, Gale Davy
	Feb-07	Public Outreach - Living Proof	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	
	Feb-07	Building the Machine: A Communications How To Public Affairs, Media Relations, and Responding to Animal Groups	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Richard Bianco
	Feb-07	Media Training	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Donna Marie Artuso
	May-11	Readiness & Response - Research and Reaching Out	CSBR/CBRA	Robert Bradford
	Jan-10	Effective Communication: Building Better Client Relationships	AVMA Leadership Conference	Paul Lisnek
Task 7 – The Impact of Human, Animal, Environment Interactions on AW:				
T7-K1 Animal abuse or neglect	Jul-02	Addiction, Domestic Violence, and Animal Abuse	AVMA Convention	Meyerholz
T7-K2 Environmental Changes	Jul-10	Global Climate Change: Emerging Diseases	AVMA National Convention	Bruno Chomel
T7-K3 The selection and training of animal attendants, animal technicians and other stewards invested in caring for animals	2001 - 2003	Technician selection and training; Training for AALAS certification	Toxikon Corporation	
	2003 - 2004	Delivered all technician training	Joslin Diabetes Center	
	2004 - 2005	Managed two training coordinators; Managed Animal Facility Manager who hired animal care technicians; Developed career pathway associated with AALAS certification	Harvard Medical School	
	2005 - 2009	Developed and delivered multiple technician training sessions (e.g. zoonotic disease, IACUC policies and procedures, animal welfare); Instituted the use of the AALAS	Covance Research Products	

	Learning Library for technician certification		
2009 - 2011	Instituted use of AALAS Learning Library; Developed bonus program for AALAS certification	Biological Test Center	
2011 - Current	Developed and deliver technician orientation program; Instituted use of the AALAS Learning Library for AALAS certification training	Absorption Systems	
2009	Achieved certification as a Professional IACUC Administrator	PRIMR	
2001 - Current	Member; Online Learning Committee Member & Chair; Developed multiple online training modules for the AALAS Learning Library	AALAS	
Jul-11	ASR Certification	LAWTE Biennial Conference	Parret-Gentil
Apr-01	Web Based Training for Investigators	New England Branch of AALAS	Steve Jean
Oct-07	Getting the most out of your AALAS membership	AALAS National Meeting	
Oct-07	Improving Training Effectiveness & Efficiency with Small Learning Opportunities	AALAS National Meeting	Martha Rooks
Aug-07	How to Train Employees about Animal Death and Human Emotion	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Marilyn Brown
Aug-07	Educating Researchers and Staff on Reducing Pain and Distress	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Paul Flecknell
Aug-07	Panel Discussion: Competency and Proficiency Assessment	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	
Aug-07	AAALAC Expectations for Animal Care Training Programs	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	
Nov-08	Animal Rights goes Mainstream	AALAS National Meeting	John Young
Apr-07	Evolution of Training and Education in Laboratory Animal Science	District 8 AALAS	Bruce Kennedy
Nov-08	Surgical Training of Non Veterinarians in an Academic Institution	Academy of Surgical Research	Gert Breur
Nov-08	A Comprehensive approach to Training for Nonveterinary Rodent Surgeons	Academy of Surgical Research	Guy Mulder
Mar-09	IACUC Oversight of Investigator Education & Training	PRIMR IACUC Conference	Cynthia Pekow, Sylvia Gografe
May-06	Increasing AALAS Certification	District VII AALAS	Belinda Proctor
Feb-07	Confronting the Challenges to Animal Research: Why We Need a Blueprint for Change	CSBR: Blueprint for Change; Confronting the Challenges to Animal Research	Bruce Kennedy

Task 8 – Regulations, Policies and Guidelines:			
T8-K1 Federal government legislation and regulations.	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center
	2004 - 2005	Service on IACUC - Member	Harvard Medical School
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Worked with USDA, USFWS, CDC, and Commonwealth of Pennsylvania regulators on a routine basis	Covance Research Products
	2009 - 2011	Service on IACUC - Chair	Biological Test Center
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs
	2006 - 2012	AVMA LAC - Worked on developed AVMA positions on legislation including the Lacey Act and AETA	AVMA
	Jul-11	Guide & AAALAC	LAWTE Biennial Conference
	2011	The 8th Ed. Guide: Highlights, Changes, and Implications for Animal Care and Use Programs	Animal Research Consulting
	2002	IACUC 101	ARENA
	2008	Navigating the US Regulations	AALAS Quad Symposium
	2009	Professional IACUC Administrator certification	PRIMR
	May-08	Guide for the Care and Use of Laboratory Animals	AALAS
	Mar-08	Animal Welfare Act Regulations	AALAS
	Oct-10	The Regulations & Requirements	AALAS National Meeting
	Oct-10	Responding to FOIA Requests: Facts and Issues	AALAS National Meeting
	Mar-10	Updates from AAALAC International, NIH OLAW, and the USDA	PRIMR IACUC Conference
	Mar-10	Protecting the Glass House We Live In: Freedom of Information Act (FOIA) and Transparency	PRIMR IACUC Conference
	Mar-09	Top 10 Deficiencies from AAALAC, OLAW, & USDA	PRIMR IACUC Conference

Rick Huneke
Melissa Hunsley
F. Claire Hankenson
AALAS Learning Library Module
AALAS Learning Library Module
Patricia Brown, Betty Goldentyer, Chris Newcomer
Susan Cornell, Gus Battles, Steve Michael
Betty Goldentyer, Kathryn

			Bayne, Patricia Brown Patricia Brown, Gibbens, Chris Newcomer Jeannie Perron
Mar-09	Updates from AAALAC International, NIH OLAW, and the USDA	PRIMR IACUC Conference	
Jan-07	Practical Implications of Animal Law on Biomedical Research and Animal Welfare	PSBR & PVMA Animal Law Symposium	
Mar-11	Oversight Updates: OLAW, USDA, & AAALAC International	PRIMR IACUC Conference	Patricia Brown, Betty Goldentyer, Chris Newcomer, Gregory Parham Kathryn Bayne, Patricia Brown, Nicolette Petervary William White Betty Goldentyer Matt Bailey
Mar-12	Top 10 Deficiencies from the Perspectives of the USDA, OLAW, and AAALAC International	PRIMR IACUC Conference	Robert Wilhems Karl Field Betty Goldentyer Kathy Laber John Young Rick Lee
Jun-08	What you need to know about domestic laws and regulations	Charles River Short Course	
Jun-02	Humane Care & Use, What are the Problems?, What are the Solutions?	Charles River Short Course	
Jun-06	AVMA GRD Farm Bill Meeting	AVMA	
Oct-07	The USDA Review of Annual Reports to Verify Pain & Distress	AALAS National Meeting	
Nov-05	EFOIA: What Does It Mean to Me?	AALAS National Meeting	
Nov-05	EFOIA & USDA	AALAS National Meeting	
Nov-05	Neutralizing Dueling Regulations: AWRs vs. GLPs	AALAS National Meeting	
Nov-05	Anti-Cruelty Laws: Impact on Biomedical Research	AALAS National Meeting	
Nov-05	Anti-Cruelty Laws and Their Impact on Biomedical Research, Case Study of 2005	AALAS National Meeting	
Mar-06	USDA Update		Mary Geib
Mar-04	USDA Inspection Process	PRIMR IACUC Conference	Robert Gibbens Nelson Garnett Diane Dean Axel Wolff
Mar-04	PHS Policy Update	PRIMR IACUC Conference	
Mar-04	NIH Compliance Perspectives	PRIMR IACUC Conference	
Mar-04	OLAW Assurance	PRIMR IACUC Conference	
Mar-08	Animal Care Update	USDA Canine Care Workshop	Mary Geib
Mar-02	Public Affairs Issues Forum: Animals in Biomedical Research	MSMR	
Feb-12	Biomedical Research & Animal Law	CSBR/CBRA	Hal Dasinger
Feb-12	Corporate Compliance	CSBR/CBRA	Marc Hulin

T8-K2 International regulations/requirements.	Summer 2000	Political Science 542 - Seminar in Administrative Justice - Seminar on WTO	Washington State University Vancouver	
	2006 - 2009	Work on CITES documents	Covance Research Products	
	Aug-08	General Concepts of the Conference on International Trade of Endangered Species of Wild Fauna and Flora (CITES)	Covance Research Products	Joe Merz (outside trainer)
	Jun-08	The Global Environment for Animal Research: Opportunities and Challenges	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Phillip Wright
	Jun-08	Science & Public Policy Panel (UK and European Process)	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Judy MacArthur Clark; Friedhelm Vogel
	Jun-06	AVMA GRD Farm Bill Meeting	AVMA	Kay Johnson
	Jul-06	Societal Trends	AVMA Convention	Tim Morris
	Mar-09	Welfare Issues During Handling, Transport, and Slaughter (Livestock)	PRIMR IACUC Conference	Temple Grandin
T8-K3 Transportation and movement of animals	2007 - 2009	IATA Training; Develop institutional policies to ensure compliance with IATA regulations; Attending Veterinarian for a designated CDC foreign importation and quarantine facility for NHPs; Work with CDC regulators during inspections; Develop institutional policies to ensure compliance to CDC importation guidelines; Completed health certificates for international exportation (EU and Asia)	Covance Research Products	
	1997 - 2003	USDA Accredited	Washington State	
	2002 - 2007	USDA Accredited	Commonwealth of Massachusetts	
	2006 - 2009	USDA Accredited/ Pennsylvania USDA Veterinary Accreditation Seminar	Commonwealth of Pennsylvania	
	May-11	Animal Transportation Association attendee and presenter	ATA	
	Jul-07	Return to the Hot Zone	American Veterinary Medical Law Association	Jerry and Nancy Jaax
	Nov-08	TB in Imported NHPs/CDC TB Review and TB Consortium	AALAS National Meeting	Gale Galland
	Aug-10	Canine Imports into the US	AVMA Convention	Julie Sinclair
	Aug-10	Options for Pets on Commercial Airlines	AVMA Convention	Gerald Rushin
	Nov-08	Extensively Drug Resistant Tuberculosis: A Global Health and Security Crisis Being Addressed via Lilly Public/Private Partnerships	Princeton University	Gail Cassell
	Jul-08	Zoonoses: Trends in Rodent Importation	AVMA Convention	Heather Bair-Brakke
	Jul-07	Importation and Quarantine of NHPs	AVMA Convention	Gale Galland
	Jul-07	Filoviruses in NHPs	AVMA Convention	Bobby

	Jul-08	Current Issues in TB: Testing of NHPs	AVMA Convention	Brown Nicholas Lerche
	Jul-08	Public Health Challenges with NHPs: Zoos and the Field	AVMA Convention	Paul Calle
	Jul-08	Panel: Public Health Concerns	AVMA Convention	Brown, Calle, Galland, Hilliard, Lerche, Pearson
	Nov-09	Transportation and Acclimation Considerations for Purpose-Breed Dogs and Puppies	AALAS National Meeting	Kimberley Cohen
	Nov-09	Transportation and Acclimation Considerations for Ferrets	AALAS National Meeting	Jill Ascher
	Nov-09	Transportation and Acclimation Considerations for SPF Minipigs	AALAS National Meeting	Simon Authier
	Nov-09	Transportation and Acclimation Considerations for Macaques	AALAS National Meeting	Luis Fernandez
	Nov-09	Global Realities of Animal Transportation	AALAS National meeting	William White
	Jan-05	Global Sharing of Animal Models: Yesterday, Today, and Tomorrow	Taconic	James Geistfeld
	Jan-05	Differences Between European and US Health Standards	Taconic	Martin Fitzner Toft
	Jan-05	Issues in Transporting Rodent Models	Taconic	Jeffrey Lohmiller
	Nov-05	AVMA/USDA Study of Air Transport	AALAS National Meeting	Steve Leary
	Nov-05	Committee for the Humane Transport of Laboratory Animals	AALAS National Meeting	Steve Leary
	Nov-05	European Status on the Transportation of Research Animals	AALAS National Meeting	Jeremy Swallow
	Nov-05	Changes in IATA's Animal Transportation Regulations	AALAS National Meeting	William White
	May-11	Animal Transport in the EU	Animal Transportation Association	Andrea Gavinelli
	May-11	Transit Through EU: View from customs & veterinary side - Traceability during transport	Animal Transportation Association	Albert Duhr, Guillaume Schmitz
	May-11	Long Haul Transportation - NHP Import Process	Animal Transportation Association	Candace Heining
	May-11	Rodent Primary Enclosures and Suitability for Ground/Air Transport	Animal Transportation Association	Guy Mulder
	May-11	Developing Innovative Strategies in Support of Global NHP Research	CSBR/CBRA	Phillippe Jean Rene Baneux
	Mar-09	Welfare Issues During Handling, Transport, and Slaughter (Livestock)	PRIMR IACUC Conference	Temple Grandin
T8-K4 Implications of state and local laws and regulations	2006 - 2009	Developed written comments on Pennsylvania Dog Law legislation and regulation; Worked with Pennsylvania Fish and Wildlife regulators to develop NHP importation procedures	Covance Research Products; PSBR	
	2011 - 2012	Animal Welfare Committee member	CVMA	

	Jan-07	Practical Implications of Animal Law on Pet Ownership and Clinical Practice	PSBR & PVMA Animal Law Symposium	Kent McClure
	Jun-06	AVMA GRD Farm Bill Meeting	AVMA	Kay Johnson
	Mar-08	Pennsylvania Dog Law Update	USDA Canine Care Workshop	Jessie Smith
	Nov-05	Anti-Cruelty Laws: Impact on Biomedical Research	AALAS National Meeting	John Young
	Mar-06	Pennsylvania USDA Veterinary Accreditation Seminar	PA Department of Agriculture	
	Mar-06	Pennsylvania Dog Law Update	USDA Canine Care Workshop	Mary Bender
	Nov-05	Developing Ethics Guidelines for Human Embryonic Stem Cell Research		Johnathan Moreno
	Sep-01	Public Health Perspectives	Washington State VMA	John Grendon
	May-01	Massachusetts State Seminar (for accreditation)	Commonwealth of Massachusetts	
Task 9 – Contemporary AW Issues:				
T9A-K1 Economic issues	Jul-06	Societal Trends	AVMA Convention	Tim Morris
T9A-K2 Feral and free-roaming animals				
T9A-K3 Invasive species	2006 - 2012	AVMA LAC Member	AVMA	
	Jul-06	Invasive Species: Pathogen Pollution	AVMA Convention	David Jessup
T9A-K4 Sanctuaries and shelters	1998	Volunteer	Vancouver (Washington) Humane Society	
	Jul-11	Challenges for Female Veterinarians: Shelter Medicine	AVMA Convention	Julie Brinker
	Summer 2000	Political Science 542 - Seminar in Administrative Justice - Seminar on grant writing, local humane society used as case study	Washington State University Vancouver	
T9A-K5 Transport/Import/Export of animals	2007 - 2009	IATA Training; Develop institutional policies to ensure compliance with IATA regulations; Attending Veterinarian for a designated CDC foreign importation and quarantine facility for NHPs; Work with CDC regulators during inspections; Develop institutional policies to ensure compliance to CDC importation guidelines; Completed health certificates for international exportation (EU and Asia)	Covance Research Products	
	Aug-10	Canine Imports into the US	AVMA Convention	Julie Sinclair
	Aug-10	Options for Pets on Commercial Airlines	AVMA Convention	Gerald Rushin
	Jul-08	Zoonoses: Trends in Rodent Importation	AVMA Convention	Heather Bair-Brakke
	Nov-09	Transportation and Acclimation Considerations for Purpose-Breed	AALAS National Meeting	Kimberley

		Dogs and Puppies		Cohen
	Nov-09	Transportation and Acclimation Considerations for Ferrets	AALAS National Meeting	Jill Ascher
	Nov-09	Transportation and Acclimation Considerations for SPF Minipigs	AALAS National Meeting	Simon Authier
	Nov-09	Transportation and Acclimation Considerations for Macaques	AALAS National Meeting	Luis Fernandez
	Nov-09	Global Realities of Animal Transportation	AALAS National meeting	William White
	Nov-05	AVMA/USDA Study of Air Transport	AALAS National Meeting	Steve Leary
	Nov-05	Committee for the Humane Transport of Laboratory Animals	AALAS National Meeting	Steve Leary
	Nov-05	European Status on the Transportation of Research Animals	AALAS National Meeting	Jeremy Swallow
	Nov-05	Changes in IATA's Animal Transportation Regulations	AALAS National Meeting	William White
	May-11	Transit Through EU: View from customs & veterinary side - Traceability during transport	Animal Transportation Association	Albert Duhr, Guillaume Schmitz
	May-11	Long Haul Transportation - NHP Import Process	Animal Transportation Association	Candace Heining
	Jan-05	Global Sharing of Animal Models: Yesterday, Today, and Tomorrow	Taconic	James Geistfeld
	Jan-05	Differences Between European and US Health Standards	Taconic	Martin Fitzner Toft
	Jan-05	Issues in Transporting Rodent Models	Taconic	Jeffrey Lohmiller
T9A-K6 Advanced Reproductive Technologies (ART)	2003-2004	Attending Veterinarian; Assisted investigators with breeding programs	Joslin Diabetes Center	
	2003	Genetics presentation	Jackson Laboratories	
	Apr-01	Moral Dilemmas with Transgenic Animals	New England Branch of AALAS	Fred Quimby
	Jun-08	Methods, Criteria, Techniques, and Genetic Responses for Rabbit Selection	World Rabbit Congress	
	Jun-08	An Enterprise Gross Margin Model to Explore the Influence of Selection Criteria for Breeding Programs and Changes to Management Systems	World Rabbit Congress	
	Jun-08	Divergent election for Longevity in Breeding Does	World Rabbit Congress	
	Jun-08	Preliminary Results in a Divergent Selection Experiment on Variant Litter Size in Rabbits	World Rabbit Congress	
	Jun-08	Genetics of Maternal Traits in a new Synthetic Rabbit Line under Selection	World Rabbit Congress	
	Apr-08	Effects of Strain Characteristics, Environment, Husbandry, and other Management Processes on Phenotyping Studies	LAMA: Planning Today for a Greener Tomorrow: Getting it Right, Now	Jackson Laboratory
	Mar-07	IACUC Issues Relevant to Managing Transgenic/Knockout Animals	PRIMR IACUC Conference	Vicki Davis, Bruce Kennedy, John Young
	Apr-08	Effects of Strain Characteristics, Environment, Husbandry, and Other Management Processes on	LAMA: Planning Today for a Greener Tomorrow: Getting it Right, Now	Teresa Chu

		Phenotyping Studies		
T9A-K7 Human-animal bond	Fall 1994	Veterinary Philosophy 465, Reverence for Life	Washington State University	Leo K. Bustad
T9A-K8 Humane Education	Jun-06	AVMA GRD Farm Bill Meeting	AVMA	Kay Johnson
T9A-K9 Population management	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2006 - 2009	Managed a mass depopulation of rabbitry due to a disease outbreak; Managed client communications during a disease outbreak at a major breeding facility	Covance Research Products	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Worked with USDA, USFWS, CDC, and Commonwealth of Pennsylvania regulators on a routine basis	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	Mar-08	Canine Genetics	USDA Canine Care Workshop	Margaret Casal
	Mar-08	Canine Brucellosis	USDA Canine Care Workshop	Margaret Casal
	Mar-06	Canine Reproduction	USDA Canine Care Workshop	Margaret Casal
B. Species Specific Topics:				
1. Companion Animals:				
T9B1-K1 Population control	Mar-08	Canine Genetics	USDA Canine Care Workshop	Margaret Casal
	Mar-08	Canine Brucellosis	USDA Canine Care Workshop	Margaret Casal
	Mar-06	Canine Reproduction	USDA Canine Care Workshop	Margaret Casal
T9B1-K2 Abandoned and relinquished companion animals				
T9B1-K3 Free roaming (owned) animals	2011 - 2012	Animal Welfare Committee member	CVMA	
	Jul-11	Parasitic and bacterial zoonoses	CVMA	Anthony Carr
	Jul-09	Zoonoses: Public Health Concerns	AVMA Convention	Paul Spurlock
	Jul-08	Zoonoses: Lyle Disease, Avian Influenza, and Rabbits	AVMA Convention	Katherine Feldman

T9B1-K4 Feral animals	Jul-08	Zoonoses: World Rabies Day	AVMA Convention	Cathleen Hannlon
	Jul-08	Zoonoses: Trends in Rodent Importation	AVMA Convention	Heather Bair-Brakke
	Jul-08	Zoonoses: Education Coalition	AVMA Convention	Heather Bair-Brakke
	Jul-07	Recent Worldwide Outbreaks of Avian Influenza	AVMA Convention	David Swayne
	May-04	Bioterrorism Awareness in Veterinary Practice: Zoonotic Diseases of Companion animals	Tufts University and the Massachusetts Bureau of Animal Health	Jim Knight
	Jul-11	Parasitic and bacterial zoonoses	CVMA	Anthony Carr
	Jul-09	Zoonoses: Public Health Concerns	AVMA Convention	Paul Spurlock
	Nov-08	Extensively Drug Resistant Tuberculosis: A Global Health and Security Crisis Being Addressed via Lilly Public/Private Partnerships	Princeton University	Gail Cassell
	Jul-09	Zoonoses: Public Health Concerns	AVMA Convention	Paul Spurlock
	Jul-08	Zoonoses: Lyle Disease, Avian Influenza, and Rabies	AVMA Convention	Katherine Feldman
	Jul-08	Zoonoses: World Rabies Day	AVMA Convention	Cathleen Hannlon
	Jul-08	Zoonoses: Trends in Rodent Importation	AVMA Convention	Heather Bair-Brakke
	Jul-08	Zoonoses: Education Coalition	AVMA Convention	Heather Bair-Brakke
	Jul-07	Recent Worldwide Outbreaks of Avian Influenza	AVMA Convention	David Swayne
	May-04	The role of the small animal veterinary team in bioterrorism and zoonotic disease	Tufts University School of Veterinary Medicine	
	Mar-06	Zoonotic Diseases	USDA Canine Care Workshop	Tami Howard
	Nov-04	Eastern Coyote Ecology and Behavior in Urbanized Areas	New England AALAS	Jonathan Way
T9B1-K5 Elective procedures	1997 - 2001	Private practitioner; Performed declawing, tail docking, and dewclaw removal procedures	Animal Health Services; Banfield The Pet Hospital	
	Jan-07	Practical Implications of Animal Law on Pet Ownership and Clinical Practice	PSBR & PVMA Animal Law Symposium	Kent McClure
T9B1-K6 Quality of life issues	Mar-08	Is your dog stressed?	USDA Canine Care Seminar	Jennifer Schmitz
	Mar-08	Grooming: The Basics from Head to Tail	USDA Canine Care Seminar	Cindy Neis
T9B1-K7 Transport	1997 - 2001	Private practitioner; Consulted with owners regarding transportation options	Animal Health Services; Banfield The Pet Hospital	
	Aug-10	Canine Imports into the US	AVMA Convention	Julie Sinclair

T9B1-K8 Abuse, cruelty, exploitation, neglect, inappropriate handling or care	Aug-10	Options for Pets on Commercial Airlines	AVMA Convention	Gerald Rushin
	Mar-06	Transportation	USDA Canine Care Workshop	Karl Thornton
	Jan-07	Practical Implications of Animal Law on Pet Ownership and Clinical Practice	PSBR & PVMA Animal Law Symposium	Kent McClure
	Jul-02	Addiction, Domestic Violence, and Animal Abuse	AVMA Convention	Meyerholz
	Mar-08	Is your dog stressed?	USDA Canine Care Seminar	Jennifer Schmitz
T9B1-K9 Disaster issues	Mar-08	Grooming: The Basics from Head to Tail	USDA Canine Care Seminar	Cindy Neis
	Feb-12	Training on Texas A&M's disaster response team; Tour of tents and FEMA trailers that are meant for response to disasters where companion animals will need veterinary care	Texas Veterinary Medical Association/Texas A&M	
	Mar-06	Hurricane Katrina Animal Rescue and Support	DVBAALAS	Susie Jendrowski, Eva Emmell
	May-04	Emergency Animal Disease Response in A: What has the state done and what is your role?	Tufts University and the Massachusetts Bureau of Animal Health	David Sherman
	May-04	Massachusetts Bioterrorism Preparedness and Response Activities and the Department of Public Health	Tufts University and the Massachusetts Bureau of Animal Health	Fredric Cantor
T9B1-K10 Sources of companion animals	May-04	Accidental or Intentional Introductions of Foreign Animal Diseases	Tufts University and the Massachusetts Bureau of Animal Health	David Sherman
	2006	USDA workshop in Pennsylvania specifically targeted at dog breeders including puppy mills	USDA Canine Care Seminar	Mary Geib, Mary Bender, Tanya Tims, Tami Howard, Amy Hinton, Margaret Casal, Randy Coleman, Karl Thornton
	Jul-11	Challenges for Female Veterinarians: Shelter Medicine	AVMA Convention	Julie Brinker
	Mar-08	USDA workshop in Pennsylvania specifically targeted at dog breeders including puppy mills	USDA Canine Care Seminar	Brunkhorst, Neis, Schmitz, Casal, Whiteley, Smith
T9B1-K11 Animal care and control –	1998	Volunteer	Vancouver (Washington) Society	Humane

Facilities and Management	Summer 2000	Political Science 542 - Seminar in Administrative Justice - Seminar on grant writing, local humane society used as case study	Washington State University Vancouver	
	Mar-08	Kennel Construction and Related Building Materials	USDA Canine Care Workshop	Robert Whiteley
T9B1-K12 Wild animals in the pet trade				
2. Production Animals - Poultry:				
T9B2-K1 Housing and confinement	2005 - 2009 Jun-06	Attending Veterinarian for chickens in egg laying studies AVMA Governmental Relations Division (GRD) Farm Bill Meeting	Covance Research Products AVMA	Steve Pretanick
T9B2-K2 Euthanasia/Depopulation	Jun-06	AVMA GRD Farm Bill Meeting - Turkey Council	AVMA	Joel Brandenberger
T9B2-K3 Husbandry procedures				
T9B2-K4 Feeding practices				
T9B2-K5 Catching and transportation				
T9B2-K6 Issues associated with slaughter /induction of death	Jun-06	AVMA Governmental Relations Division (GRD) Farm Bill Meeting - National Chicken Council	AVMA	Steve Pretanick
	Jun-06	AVMA GRD Farm Bill Meeting - Turkey Council	AVMA	Joel Brandenberger
T9B2-K7 Genetic selection				
T9B2-K8 Availability of medication	2005 - 2009 Nov-08	Attending Veterinarian for chickens in egg laying studies Avian Influenza & <i>Salmonella enteritidis</i> : Protecting Flocks, Protecting People	Covance Research Products DVBAALAS Meeting	Sherrill Davison
	Jul-07	Recent Worldwide Outbreaks of Avian Influenza	AVMA Convention	David Swayne
	Mar-07	Preventing Pandemics: Bird Flu and Other Emerging Zoonotic Diseases	PRIMR IACUC Convention	Michael Gregor
	Nov-09	Pandemic Influenza H1N1 2009: Origin and Epidemiological Considerations	AALAS National Meeting	Richard Webby
T9B2-K9 Behavior				
3. Production animals – hooved stock:				
T9B3-K1 Euthanasia	2001 - 2002	Attending Veterinarian; Goats	Toxikon Corporation	
	2005 - 2009	Attending Veterinarian for hundreds of goats and sheep; Developed euthanasia policies and procedures to ensure compliance	Covance Research Products	
	2011 - 2012	Provide clinical care to sheep		

	Mar-09	Welfare Issues During Handling, Transport, and Slaughter (Livestock)	PRIMR IACUC Conference	Temple Grandin
T9B3-K2 Slaughter	Mar-09	Welfare Issues During Handling, Transport, and Slaughter (Livestock)	PRIMR IACUC Conference	Temple Grandin
	Jun-06	AVMA GRD Farm Bill Meeting - American Farm Bureau Federation	AVMA	Kelli Ludlum, Paul Shelgell
T9B3-K3 Transportation	Mar-09	Welfare Issues During Handling, Transport, and Slaughter (Livestock)	PRIMR IACUC Conference	Temple Grandin
T9B3-K4 Husbandry procedures	2001 - 2002	Attending Veterinarian; Developed hoof trimming procedures and policies for goats	Toxikon Corporation	
	Aug-07	Reducing Stress During Handling	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Temple Grandin
T9B3-K5 Housing	2001 - 2002	Attending Veterinarian; Goats	Toxikon Corporation	
	2004 - 2005	Managed husbandry for sheep	Harvard Medical School	
	2005 - 2009	Attending Veterinarian for hundreds of sheep and goats; Developed policies and procedures for confinement	Covance Research Products	
	2009 - 2011	Managed husbandry for sheep	Biological Test Center	
	2011 - Current	Managed husbandry for sheep; Provide clinical care	Absorption Systems	
T9B3-K6 Locomotion				
T9B3-K7 Production enhanced technologies/regulations				
T9B3-K8 Availability of medications	2001 - 2002	Attending Veterinarian; Goats	Toxikon Corporation	
	2005 - 2009	Attending Veterinarian for hundreds of sheep and goats; Developed policies and procedures for confinement	Covance Research Products	
	2011 - Current	Managed husbandry for sheep; Provide clinical care	Absorption Systems	
	2006 - 2012	AVMA LAC Member	AVMA	
	Jan-07	Practical Implications of Animal Law on Production Animal Medicine	PSBR & PVMA Animal Law Symposium	Phyllis Marquitz
T9B3-K9 Handling procedures/techniques	2001 - 2002	Attending Veterinarian; Goats	Toxikon Corporation	
	2004 - 2005	Managed husbandry for sheep	Harvard Medical School	
	2005 - 2009	Attending Veterinarian for hundreds of sheep and goats; Developed policies and procedures for confinement	Covance Research Products	
	2009 - 2011	Managed husbandry for sheep	Biological Test Center	
	2011 - Current	Managed husbandry for sheep; Provide clinical care	Absorption Systems	

	Aug-07	Reducing Stress During Handling	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Temple Grandin
	Jan-07	Practical Implications of Animal Law on Production Animal Medicine	PSBR & PVMA Animal Law Symposium	Phyllis Marquitz
T9B3-K10 Feeding practices	2001 - 2002	Attending Veterinarian; Goats	Toxikon Corporation	
	2004 - 2005	Managed husbandry for sheep	Harvard Medical School	
	2005 - 2009	Attending Veterinarian for hundreds of sheep and goats; Developed policies and procedures for confinement	Covance Research Products	
	2009 - 2011	Managed husbandry for sheep	Biological Test Center	
	2011 - Current	Managed husbandry for sheep; Provide clinical care	Absorption Systems	
	Jun-06	AVMA GRD Farm Bill Meeting	AVMA	Colin Woodall
T9B3-K11 Behavior	2001 - 2002	Attending Veterinarian; Goats	Toxikon Corporation	
	2004 - 2005	Managed husbandry for sheep	Harvard Medical School	
	2005 - 2009	Attending Veterinarian for hundreds of sheep and goats; Developed policies and procedures for confinement	Covance Research Products	
	2009 - 2011	Managed husbandry for sheep	Biological Test Center	
	2011 - Current	Managed husbandry for sheep; Provide clinical care	Absorption Systems	
4. Equids				
T9B4-K1 Health issues	2005 - 2009	Attending veterinarian for a colony of up to 17 horses	Covance Research Products	
T9B4-K2 Management and husbandry practices	2005 - 2008	Attending veterinarian for a colony of up to 17 horses	Covance Research Products	
T9B4-K3 Nutrition				
T9B4-K4 Transportation issues	2006 - 2012	AVMA LAC Member	AVMA	
	May-11	Animal Transportation Association meeting attendee	Animal Transportation Association	
	Jun-06	AVMA GRD Farm Bill Meeting - American Horse Council	AVMA	Amy Mann
T9B4-K5 Unwanted horses	2006 - 2012	AVMA LAC Member; Specifically worked on developing position statements for horse slaughter and talked to lawmakers at multiple meetings	AVMA	
	Jun-06	AVMA GRD Farm Bill Meeting - American Horse Council	AVMA	Amy Mann
T9B4-K6 Exhibition/Showing/Work Horses				
T9B4-K7 Rescues following disasters, rescue organizations				

T9B4-K8 Free-ranging equids				
T9B4-K9 Behavior	2005 - 2008	Attending veterinarian for a colony of up to 17 horses	Covance Research Products	
5. Laboratory animals:				
T9B5-K1 Ethics of the use of animals in research, testing and education	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Attending Veterinarian; Visited Noveprim in Mauritius that traps and breeds cynomologus macaques; Helped to develop policies on tooth reduction to ensure compliance	Covance Research Products	
	Oct-08	Presentation to the NRC Committee on Scientific and Humane Issues in the Care and Use of Random Source Dogs and Cats in Research	National Research Council	
	Oct-08	Presentations given to the NRC Committee on Scientific and Humane Issues in the Care and Use of Random Source Dogs and Cats in Research	National Research Council	Ron DeHaven, Cathy Liss, Jerry DePoyster, David Kass, Margaret Snyder, Bill Yates
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	2009 - Current	AVMA HOD Member; Sponsored AVMA Policy on random source dogs	AVMA	
	2006 - 2012	AVMA LAC Member; Helped develop AVMA position statements on legislation, including legislation dealing with great apes in research	AVMA	
	Mar-06	Creating a Culture in Which the Ethical Review of Protocols and Animal Research Can Flourish	PRIMR IACUC Conference	Bernard Rollin
	Mar-11	Aging & Ethical Research in Animals: Highly Compatible?	PRIMR IACUC Conference	Stuart Zola
	Mar-11	Use of a Translational Model to Understand Primate Well-Being	PRIMR IACUC Conference	Melinda Novak
	Mar-07	Four Legs Good, Two Legs Better: Why the Ideology of Animal Rights Threatens Ethical Medical Research	PRIMR IACUC Conference	Wesley Smith
	Oct-04	Primate Research: What is Needed to get Reliable Results	AALAS National Meeting	
	Jun-07	Development of a Training program to Address Risks from Wild Animal Species in Biomedical Research	TriBranch Symposium	Janet Schulnberg, Rick Huneke

T9B5-K2 Safety testing	Aug-03	The Ethics Dialogue - An Activity on Ethics in Animal Studies	LAWTE Biennial Conference	Agnetha Roswall
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director; FDA GLP, EPA GLP, OECD testing	Toxikon Corporation	
	2005 - 2009	Attending Veterinarian and IACUC Member; Vaccine potency testing and OECD training	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair; FDA GLP testing	Biological Test Center	
	2001 - Current	Service on IACUC - Chair; Study Director; FDA GLP testing; Animal alternatives validations; OECD guidelines	Absorption Systems	
	Dec-07	The normal and diseases eye in the context of safety studies	CL Davis Foundation	Gus Aguirre
	Dec-07	Cornea: Anatomy, pathology, and mechanism of toxicity	CL Davis Foundation	Dick Dubielzig
	Dec-07	Lens: Anatomy, pathology, and mechanism of toxicity	CL Davis Foundation	Dick Dubielzig
	Dec-07	Retina: Anatomy, pathology, and mechanisms of toxicity	CL Davis Foundation	Gus Aguirre
	Dec-07	The eye in safety studies: Ocular conditions and issues	CL Davis Foundation	Jim Render
	Mar-07	Development of Gardasil™: a human papillomavirus vaccine	CL Davis Foundation	Jayanthi Wolf
	Mar-07	Development of RotaTeq™: a live, oral pentavalent rotavirus vaccine	CL Davis Foundation	Jose Lebron
	Mar-07	HIV vaccine development	CL Davis Foundation	John Shiver
	Feb-08	ICCVAM and NICEATM: The First Ten Years	ICCVAM & NICEATM	William Stokes
	Feb-08	The NICEATM-ICCVAM Five-Year Plan: A Vision Towards the Future	ICCVAM & NICEATM	Marilyn Wind and Andrew Rowan
	Feb-08	The Evolution of Toxicology: Where We've Come From and Future Prospects	ICCVAM & NICEATM	Bernard Schwetz
	Feb-08	Toxicology Testing in the 21st Century: A Vision and a Strategy - A Report of the National Research Council of the National Academies	ICCVAM & NICEATM	Daniel Krewski
	Feb-08	Future Directions in Test Method Research, Development, Translation, and Validation	ICCVAM & NICEATM	John Bucher, Harold Zenick, Janet Woodcock
	Feb-08	Panel Discussion - Test Method Research, Development, Translation, and Validation: The Way Forward for ICCVAM and its Stakeholders	ICCVAM & NICEATM	John Howard, Martin Stephens, Richard Becker, Michael Holsapple, George Corcoran,

			John Bailey, Hajime Kojima
Oct-10	Outsourcing as a Viable Business Solution for the Lab Animal Industry	AALAS National Meeting	
Nov-09	Outsourcing Nonclinical Safety Studies: Best Practices for Selecting a CRO	American College of Toxicology	John Daniels
Nov-09	Study Monitor: The CRO's Friend or Foe	American College of Toxicology	Susan McPherson
Nov-09	Legal and Financial Arrangements	American College of Toxicology	Clynn Wilker
Nov-09	Basic Concepts in Pathology and the Role of the Toxicologic Pathologist	American College of Toxicology	LuAnn McKinney
Nov-09	Histopathologic Practice and Approaches: Relevance and Interpretation in Risk Assessment	American College of Toxicology	Dianne Margaret Creasy
Nov-09	Rodent Diets and Nutrition as a Study Variable	American College of Toxicology	Graham Tobin
Nov-09	Use of Placebo, Vehicle, and Positive Control and Recovery Groups to Aid in Rapid Study Interpretation	American College of Toxicology	Klaus Weber
Nov-09	Optimizing the Design of Preliminary Toxicity Studies for Pharmaceutical Testing	American College of Toxicology	David Hopper
Nov-09	Preclinical Comparability Assessments of a Biologic Product	American College of Toxicology	Laura Andrews
Nov-09	CDER Perspective on Comparability of a Biologic Product	American College of Toxicology	M. Stacey Ricci
Nov-09	CBER Perspective on Comparability	American College of Toxicology	Ramjay Vatsan
Nov-09	Integration of Preclinical and Clinical Safety Data: A Regulatory Perspective	American College of Toxicology	Douglas Throckmorton
Mar-09	Constructing & Conducting Animal Welfare Audits for Outsourcing	PRIMR IACUC Conference	Terry Hawk, Beth Ford
Mar-05	Balancing Animal Welfare and Regulatory Compliance Issues in Pre-Clinical Studies	PRIMR IACUC Conference	Rodney Allnutt, David Johnson, Jodie Kulpa-Eddy
Nov-05	Contracting Out Research to CROs: What are the Issues?	AALAS National Meeting	Wendy Underwood
Nov-05	Contracting Research to Universities: What are the Issues	AALAS National Meeting	Joseph Benoit
Nov-05	Neutralizing Dueling Regulations: AWRs vs. GLPs	AALAS National Meeting	Kathy Laber
Mar-11	Reforming the Toxic Substances Control Act (TSCA): Challenges, Opportunities, and Timing	Society of Toxicology	
Mar-11	Assuring the Safety of Chemicals: TSCA Reform	Society of Toxicology	Tala Henry
Mar-11	TSCA Reform & REACH	Society of Toxicology	George Rusch

T9B5-K3 Housing	Mar-11	Reforming TSCA: Prospects for Legislation	Society of Toxicology	James Votaw
	Mar-11 Mar-11	Panel Discussion on TSCA Reform SOT/EuroTox Debate	Society of Toxicology Society of Toxicology	Ina Schuppe Koistinen, Kim Boekelheid e
	Apr-03	Regulatory Considerations in the Development of Novel Biologics and Drugs	CATO Research	David G. Shoemaker
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member & Chair	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	Mar-09	AAALAC International Conference on Quality Animal Care	AAALAC	Cecile Boccanale
	Apr-07	Design and Management of Laboratory Animal Medicine Facilities	TurnKey Conference	Ron Banks
	Nov-08	Regulatory Review and Case Studies Involving Enrichment	Environmental Enrichment Symposium	Patricia Brown
	Nov-08	Response to enrichment in an exotic species	Environmental Enrichment Symposium	Jean Geary
	Nov-08	Is the future of enrichment evaluation scientifically sound?	Environmental Enrichment Symposium	Joseph Barber
	Nov-08	Improving environments for rodents used in science	Environmental Enrichment Symposium	Gilly Griffin
	May-06	Increasing Rodent Cage Density in Existing Rooms	District VII AALAS	Ron Daniels
	Apr-06	A Comparison of Dog Flooring Materials as it Relates to Animal Welfare and Facility Costs	LAMA	Bill Britz
	Apr-09	Environmental Enrichment	MSMR Environmental Enrichment Extravaganza	Temple Grandin
	Jun-01	Environmental Enrichment Techniques for Laboratory Animals	Charles River Short Course	Kathryn Bayne
T9B5-K4 Welfare issues associated with experimentation	Oct-04	Basic Animal Facility Planning & Design	AALAS National Meeting	
	Apr-04	Basic Guidelines for the Design and Development of Laboratory Animal Facilities	TurnKey Conference	Don McKay, David Neil
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	

2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
2009 - 2011	Service on IACUC - Chair	Biological Test Center	
2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
2009	Professional IACUC Administrator certification	PRIMR	
Oct-07	Using Study Data & VMRs to Assess Retrospective Pain Categories for the USDA	AALAS National Meeting	
Nov-08	Clinical Medicine & Appropriate endpoints for rodents (GLP studies)	AALAS National Meeting	Alex Wakefield
Feb-08	ICCVAM and NICEATM: The First Ten Years	ICCVAM & NICEATM	William Stokes
Feb-08	The NICEATM-ICCVAM Five-Year Plan: A Vision Towards the Future	ICCVAM & NICEATM	Marilyn Wind and Andrew Rowan
Feb-08	The Evolution of Toxicology: Where We've Come From and Future Prospects	ICCVAM & NICEATM	Bernard Schwetz
Feb-08	Toxicology Testing in the 21st Century: A Vision and a Strategy - A Report of the National Research Council of the National Academies	ICCVAM & NICEATM	Daniel Krewski
Feb-08	Future Directions in Test Method Research, Development, Translation, and Validation	ICCVAM & NICEATM	John Bucher, Harold Zenick, Janet Woodcock
Feb-08	Panel Discussion - Test Method Research, Development, Translation, and Validation: The Way Forward for ICCVAM and its Stakeholders	ICCVAM & NICEATM	John Howard, Martin Stephens, Richard Becker, Michael Holsapple, George Corcoran, John Bailey, Hajime Kojima
May-06	Humane Endpoints for NHPs in Biomedical Research	District VII AALAS	Rick Lee
Mar-07	Pushing Back on Endpoints	PRIMR IACUC Conference	Steve Neimi
Oct-04	Lessons from Human Pediatrics: Assessing Pain in Non-Verbal Infants and Children	AALAS National Meeting	Susan Senecal
Jul-05	Laboratory and Vivarium Equipment and Facility Planning and Management	Current Laboratory Animal Science Seminar	Elliott
Feb-12	Development of a Model of Ocular Surface Pain/Discomfort	GTC Ocular Diseases & Drug Discovery	David Woodward

T9B5-K5 Legislative and regulatory issues	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	2009	Professional IACUC Administrator certification	PRIMR	
	2002	IACUC 101	ARENA	
	Mar-08	Animal Welfare Act Regulations	AALAS	AALAS Learning Library Module
	Mar-10	Protecting the Glass House We Live In: Freedom of Information Act (FOIA) and Transparency	PRIMR IACUC Conference	Susan Cornell, Gus Battles, Steve Michael
	Mar-10	Updates from AAALAC International, NIH OLAW, and the USDA	PRIMR IACUC Conference	Patricia Brown, Betty Goldentyer, Chris Newcomer
	Mar-09	Top 10 Deficiencies from AAALAC, OLAW, & USDA	PRIMR IACUC Conference	Betty Goldentyer, Kathryn Bayne, Patricia Brown
	Mar-09	Updates from AAALAC International, NIH OLAW, and the USDA	PRIMR IACUC Conference	Patricia Brown, Gibbens, Chris Newcomer
	Mar-04	USDA and the Inspection Process: Federal Oversight	PRIMR IACUC Conference	
	Mar-04	OLAW/PHS: More Federal Oversight	PRIMR IACUC Conference	
	Mar-11	Oversight Updates: OLAW, USDA, & AAALAC International	PRIMR IACUC Conference	Patricia Brown, Betty Goldentyer, Chris Newcomer, Gregory Parham
	Mar-12	Top 10 Deficiencies from the Perspectives of the USDA, OLAW, and AAALAC International	PRIMR IACUC Conference	Kathryn Bayne, Patricia

T9B5-K6 Qualifications and training				Brown, Nicolette Petervary
	Mar-12	Core Principles for the Oversight of Animal Research	PRIMR IACUC Conference	Margaret Landi
	Mar-05	Laboratory Animals - The Real Leaders in Stem Cell Research	PRIMR IACUC Conference	Evan Snyder
	Nov-05	The Current State of Embryonic Stem Cell Research	Harvard Medical School	George Daley
	Nov-05	Stem Cell Research	Harvard Medical School	Michael Sandel
	Nov-05	Developing Ethics Guidelines for Human Embryonic Stem Cell Research	Harvard Medical School	Johnathan Moreno
	Mar-02	Public Affairs Issues Forum: Animals in Biomedical Research	MSMR	
	Jun-04	Stem Cells and Catching the Big Fish	MSMR	Leonard Zon
	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2008	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian; Consultant	Elm Hill Breeding Labs	
	2009	Professional IACUC Administrator certification	PRIMR	
	Jul-11	What it means to be a trainer	LAWTE Biennial Conference	McKay, Clifford
	Apr-01	Web Based Training for Investigators	New England Branch of AALAS	Steve Jean
	2002	IACUC 101	ARENA	
	Mar-09	AAALAC International Conference on Quality Animal Care	AAALAC International	John Bradfield; William Dale
	Mar-09	IACUC Conference	PRIMR IACUC Conference	
	Oct-07	Improving Training Effectiveness & Efficiency with Small Learning Opportunities	AALAS National Meeting	Martha Rooks
	Aug-07	Educating Researchers and Staff on Reducing Pain and Distress	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	Paul Flecknell
	Aug-07	Panel Discussion: Competency and Proficiency Assessment	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	
	Aug-07	AAALAC Expectations for Animal Care Training Programs	LAWTE Biennial Conference: RePLAY Relieve Pain in Laboratory Animals and Yourself	
	Aug-07	Reducing Stress During Handling	LAWTE Biennial Conference: RePLAY Relieve Pain in	Temple Grandin

			Laboratory Animals and Yourself	
	Mar-07	IACUC Conference	PRIMR IACUC Conference	
	Apr-07	Evolution of Training and Education in Laboratory Animal Science	District 8 AALAS	Bruce Kennedy
	Mar-10	Updates from AAALAC International, NIH OLAW, and the USDA	PRIMR IACUC Conference	Patricia Brown, Betty Goldentyer, Chris Newcomer
	Nov-08	Surgical Training of Non Veterinarians in an Academic Institution	Academy of Surgical Research	Gert Breur
	Nov-08	A Comprehensive approach to Training for Nonveterinary Rodent Surgeons	Academy of Surgical Research	Guy Mulder
	Nov-08	The Surgery was a Success, But the Patient, Not So Good	Academy of Surgical Research	Ron Banks
	Mar-09	IACUC Oversight of Investigator Education & Training	PRIMR IACUC Conference	Cynthia Pekow, Sylvia Gografe
	Mar-09	Issues for Industry Programs	PRIMR IACUC Conference	Cindy Hoorn, Gothro
	Apr-06	IACUC 201	OLAW & Virginia Commonwealth University	
	Mar-11	IACUC 101 (Advanced); IACUC Responsibilities	PRIMR IACUC Conference	Mary Lou James, Monte Matthews
	Jul-05	Personnel Training and IACUC Trends	Current Laboratory Animal Science Seminar (CLASS)	Ron Banks
T9B5-K7 Welfare aspects of animal models	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director; Pyrogenicity, infectious disease (ABSL 2), and chronic toxicity studies	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Transgenics	Joslin Diabetes Center	
	2004 - 2005	Service on IACUC - Member; Transgenics, Neuroscience, Psychological, and Infectious disease studies (up to ABSL 3)	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years; Infectious disease studies; Chair of the Institutional Biosafety Committee	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair; Pyrogenicity and Chronic Toxicity studies	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director; Infectious disease (ABSL2) and Chronic Toxicity; Chair of Institutional Biosafety Committee	Absorption Systems	
	Apr-01	Moral Dilemmas with Transgenic Animals	New England Branch of AALAS	Fred Quimby

Mar-09	Evaluation of Toxicity to Male and Female Reproductive Systems: Biology, Study Design, and Data Interpretation	Society of Toxicology	Kim Boekelheide, Anthony Scialli, Barry McIntyre, Don Stump
Apr-08	Effects of Strain Characteristics, Environment, Husbandry, and other Management Processes on Phenotyping Studies	LAMA: Planning Today for a Greener Tomorrow: Getting it Right, Now	Jackson Laboratory
Apr-08	Biodefense Research at the Primate and Animal Care Facilities - University of Maryland School of Medicine	LAMA: Planning Today for a Greener Tomorrow: Getting it Right, Now	Louis J. DeTolla
Nov-08	Clinical Medicine & Appropriate endpoints for rodents (GLP studies)	AALAS National Meeting	Alex Wakefield
Nov-08	Clinical Medicine & Palliative Therapy for Canines (GLP studies)	AALAS National Meeting	Michael Koch
Nov-08	Clinical Medicine & Palliative Therapy for NHPs (GLP studies)	AALAS National Meeting	Iris Bolton
Nov-08	Decisions when selective therapies for GLP studies	AALAS National Meeting	Alex Wakefield
Apr-07	AAALAC International Expectations for Biocontainment Research Programs	TurnKey Conference	Jim Swearingen
Jan-06	Design, Construction and Commissioning of ABSL 1-3 Animal Facilities	CDC's 9th International Symposium on Biosafety	
Jan-06	Animal Biosafety	CDC's 9th International Symposium on Biosafety	
Jun-07	ABSL2 Ferrets and the Animal Care Technician	LAMA: Managing for Success	Stephanie Glyptis
Jun-07	Use of BSL 3 Facilities to Study Avian Influenza in Chickens	TriBranch Symposium: So Much Training...So Little Time	Robert Alphin
May-06	Biocontainment - Easier Said Than Done	District VII AALAS	Michael Sidelsky
Oct-06	Using Biohazardous Materials in Research	Best practices for IACUC Administrators	Lisa Snider
Mar-07	IACUC Issues Relevant to Managing Transgenic/Knockout Animals	PRIMR IACUC Conference	Vicki Davis, Bruce Kennedy, John Young
Apr-08	Effects of Strain Characteristics, Environment, Husbandry, and Other Management Processes on Phenotyping Studies	LAMA: Planning Today for a Greener Tomorrow: Getting it Right, Now	Teresa Chu
Apr-08	Multiple Site Research Variables	LAMA: Planning Today for a Greener Tomorrow: Getting it Right, Now	John Crabbe
Mar-04	Compliance and Research Models	PRIMR IACUC Conference	Geoff Grant
Nov-08	Biosafety 101	AALAS National Meeting	James Klenner
Mar-11	Minipig Toxicology Overview	Society of Toxicology	Peter McNulty
Apr-04	The Impact of Biosafety and Biocontainment on Animal Facilities	TurnKey Conference	Ron Consalvo
Jul-05	Behavioral Phenotyping Of Transgenic and Knockout Mice	Current Laboratory Animal Science Seminar (CLASS)	Crawley

T9B5-K8 International issues	Apr-03	Select Agents and Biosecurity Update	CareGroup Occupational Health Network	Betsy Gillman Duane
	2005 - 2009	Worked with various internal and external groups to harmonize animal care and use practices in a global organization; Visited international animal suppliers; Worked on issues stemming from international shipments of NHPs	Covance Research Products	
	Jun-08	Methods, Criteria, Techniques, and Genetic Responses for Rabbit Selection	World Rabbit Congress	
	Jun-08	An Enterprise Gross Margin Model to Explore the Influence of Selection Criteria for Breeding Programs and Changes to Management Systems	World Rabbit Congress	
	Jun-08	Divergent selection for Longevity in Breeding Does	World Rabbit Congress	
	Jun-08	Preliminary Results in a Divergent Selection Experiment on Variant Litter Size in Rabbits	World Rabbit Congress	
	Jun-08	Genetics of Maternal strategies in a new Synthetic Rabbit Line under Selection	World Rabbit Congress	
	Jun-08	Animal Welfare Roundtable	World Rabbit Congress	
	Jun-08	Search for Key Health & Welfare Indicators	World Rabbit Congress	
	Jun-08	The Global Environment for Animal Research: Opportunities and Challenges	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Phillip Wright
	Jun-08	Science & Public Policy Panel (US, UK and European Process)	NABR Communication & Collaboration, An International Forum for Animal Research Policy	Judy MacArthur Clark; Friedhelm Vogel; Chris Newcomer
	Apr-07	Tour of Cayo Santiago (Puerto Rican NHP breeding island)	LAMA: Managing for Success	
	Jul-07	Return to the Hot Zone	American Veterinary Medical Law Association	Jerry and Nancy Jaax
	Nov-08	TB in Imported NHPs/CDC TB Review and TB Consortium	AALAS National Meeting	Gale Galland
	Oct-10	Outsourcing as a Viable Business Solution for the Lab Animal Industry	AALAS National Meeting	
	Nov-09	Outsourcing Nonclinical Safety Studies: Best Practices for Selecting a CRO	American College of Toxicology	John Daniels
	Nov-09	Study Monitor: The CRO's Friend or Foe	American College of Toxicology	Susan McPherson
	Nov-09	Legal and Financial Arrangements	American College of Toxicology	Clynn Wilker
	Nov-08	Extensively Drug Resistant Tuberculosis: A Global Health and Security Crisis Being Addressed via Lilly Public/Private Partnerships	Princeton University	Gail Cassell
	Mar-09	Constructing & Conducting Animal Welfare Audits for Outsourcing	PRIMR IACUC Conference	Terry Hawk, Beth Ford
	Jul-07	Importation and Quarantine of NHPs	AVMA Convention	Gale Galland

	Jul-08	Public Health Challenges with NHPs	AVMA Convention	Paul Calle
	Jul-08	Panel: Public Health Concerns	AVMA Convention	Brown,
				Calle,
				Galland,
				Hilliard,
				Lerche,
				Pearson
	Jul-06	Globalization: Overview & Perspective	AVMA Convention	Deane
	Jul-06	Impact of Zoonoses from Asia	AVMA Convention	Neubauer
				Steven
	Jun-06	AVMA GRD Farm Bill Meeting	AVMA	McLaughlin
				Kay
	Mar-11	SOT/EuroTox Debate	Society of Toxicology	Johnson
				Ina
				Schuppe
				Koistinen,
				Kim
				Boekelheid
				e
T9B5-K9 Animal disposition	2001 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian; Study Director	Toxikon Corporation	
	2003 - 2005	Service on IACUC - Veterinary Member; Attending Veterinarian	Joslin Diabetes Center	
	2005	Service on IACUC - Member	Harvard Medical School	
	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Present	Service on IACUC - Chair; Study Director	Absorption Systems	
	2001 - 2005	Service on IACUC - Veterinary Member then Chair; Attending Veterinarian	Elm Hill Breeding Labs	
	Jul-11	Euthanasia: Parts & Process	AVMA Convention	Steve
	Jul-11	Ethical Construct for Euthanasia	AVMA Convention	Leary
	Aug-07	How To Train Employees about Animal Death and Human Emotion	LAWTE Biennial Conference: RePLAY	Raymond
			Relieve Pain in Laboratory Animals and Yourself	Anthony
				Marilyn
				Brown
T9B5-K10 Behavior	2005 - 2009	Service on IACUC - Veterinary Member for 2.5 years and Chair for 1.1 years	Covance Research Products	
	2009 - 2011	Service on IACUC - Chair	Biological Test Center	
	2011 - Current	Service on IACUC - Chair; Study Director	Absorption Systems	
6. Zoo Animals:				
T9B6-K1 Housing/Habitat	2011 - 2012	Animal Welfare Committee member (captive elephant policies)	CVMA	
T9B6-K2 Conservation issues				
T9B6-K3 Population control				

T9B6-K4 Sourcing of animals					
T9B6-K5 Environmental enrichment	2011 - 2012	Animal Welfare Committee member (captive elephant policies)	CVMA		
T9B6-K6 Interactive programs	Jul-09	Zoonoses: Public Health Concerns	AVMA Convention	Paul Spurlock Katherine Feldman Cathleen Hannlon Heather Bair-Brakke Heather Bair-Brakke National Association of State Public Health Veterinarians Steven McLaughlin Paul Calle	
	Jul-08	Zoonoses: Lyle Disease, Avian Influenza, and Rabies	AVMA Convention		
	Jul-08	Zoonoses: World Rabies Day	AVMA Convention		
	Jul-08	Zoonoses: Trends in Rodent Importation	AVMA Convention		
	Jul-08	Zoonoses: Education Coalition	AVMA Convention		
	Jul-07	Compendium of Measures to Prevent Disease Associate with Animals in Public Settings	CDC		
	Jul-06	Impact of Zoonoses from Asia	AVMA Convention		
	Jul-08	Public Health Challenges with NHPs: Zoos and the Field	AVMA Convention		
T9B6-K7 Behavior	2011 - Current	Animal Welfare Committee member (captive elephant policies)	CVMA		
T9B6-K8 Exchange of animals among facilities					
7. Aquatic Animals:					
T9B7-K1 Harvesting and collecting					
T9B7-K2 Injury/Trauma					
T9B7-K3 Fishing welfare guidelines					
T9B7-K4 Confinement raising of pet/exhibition fish	Mar-05	Zebrafish Diseases and Husbandry		Claudia Harper	
T9B7-K5 Habitat	Aug-05	Dolphin Interaction Program	Sea World		
T9B7-K6 Surplus animal disposition					
T9B7-K7 Sourcing and effect upon wild populations					
T9B7-K8 Environmental enrichment	Nov-08	Response to enrichment in an exotic species	Environmental Enrichment Symposium	Jean Geary	
T9B7-K9 Interactive program					

T9B7-K10 Live prey feeding				
T9B7-K11 Pain perception				
T9B7-K12 Euthanasia				
T9B7-K13 Non-indigenous species	2006 - 2012	AVMA LAC Member; Helped develop AVMA position statements on legislation, including Asian Carp	AVMA	
8. Aquaculture and fisheries:				
T9B8-K1 Stocking procedures				
T9B8-K2 Habitat management	Jul-01	AVMA Convention Opening Session	AVMA National Convention	Phillipe Cousteau
T9B8-K3 Invasive species	2006 - 2012	AVMA LAC Member; Helped develop AVMA position statements on legislation, including Asian Carp	AVMA	
T9B8-K4 Sustainability of wild species	Jul-01	AVMA Convention Opening Session	AVMA National Convention	Phillipe Cousteau
T9B8-K5 Harvesting and holding techniques				
T9B8-K6 By-catch				
T9B8-K7 Impact of aquaculture facilities on local habitat and adjacent wild populations				
9. Wildlife/Exotic Animals:				
T9B9-K1 Wildlife as pets	2006 - 2012	AVMA LAC Member; Helped develop AVMA positions on legislation	AVMA	
	Jul-09	Zoonoses: Public Health Concerns	AVMA Convention	Paul Spurlock
	Jul-08	Zoonoses: Lyle Disease, Avian Influenza, and Rabies	AVMA Convention	Katherine Feldman
	Jul-08	Zoonoses: World Rabies Day	AVMA Convention	Cathleen Hannlon
	Jul-08	Zoonoses: Trends in Rodent Importation	AVMA Convention	Heather Bair-Brakke
	Jul-08	Zoonoses: Education Coalition	AVMA Convention	Heather Bair-Brakke
	Jul-07	Recent Worldwide Outbreaks of Avian Influenza	AVMA Convention	David Swayne
	Jul-06	Impact of Zoonoses from Asia	AVMA Convention	Steven McLaughlin
T9B9-K2 Hunting and trapping				
T9B9-K3 Removal of antlers (velveting)				
T9B9-K4 Nuisance animal control				

T9B9-K5	Conservation issues facing individual species			
T9B9-K6	Competing interests			
T9B9-K7	Repatriation into the wild			
T9B9-K8	Habitat loss and degradation			
10. Animals in Entertainment and Exhibition:				
T9B10-K1	Regulations and oversight	2011 - Current	Animal Welfare Committee member (captive elephant policies)	CVMA
11. Animals in Education:				
T9B11-K1	Regulation and oversight and special concerns			
12. Working and Assistance Animals:				
T9B12-K1	Special work associated risks	2006 - 2012	AVMA LAC Member	AVMA
C. Current Topics:				
T9C-K1	Emerging or Current Topic not ready for a species specific heading:	2011	FDA inclusion of Animal Welfare in GLP regulations	Absorption Systems
T9C-K2				
T9C-K3				
T9C-K4				