

CURRICULUM VITAE

DAVID MILEY KURTZ

EDUCATION:

2005	Diplomate – American College of Laboratory Animal Medicine
1998 – 2003	Post-doctoral fellowship - Washington University in St. Louis, School of Medicine, Division of Cardiology
1998	<u>Doctor of Philosophy (PhD)</u> – Molecular and Cellular Pathology, University of Alabama at Birmingham
1991-1993	Residency in Laboratory Animal Medicine, University of Alabama at Birmingham
1989	<u>Doctor of Veterinary Medicine (DVM)</u> - University of Tennessee, College of Veterinary Medicine, Knoxville, TN
1983-1986	University of Tennessee, Knoxville, TN, Major - Animal Science

PROFESSIONAL EXPERIENCE:

2013 - present	Section Head - Quality Assurance Laboratory, Comparative Medicine Branch (CMB), National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, NC. <ul style="list-style-type: none">• The NIEHS Quality Assurance Laboratory (QAL) provides microbial and chemical contaminant testing services for NIEHS. Most testing is for the CMB Animal Research Program including animal health surveillance, feed, bedding, water and biological materials. QAL also tests biological materials (e.g., cell lines, viral vectors, proteins) for microbial contamination. QAL also performs research on the impact of environmental contaminants on rodent physiology. Supervises 5 full-time employees.• Participate in triennial accreditation site visits by the Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC), Int.• Serve as clinical veterinarian for NIEHS research animal population• 2015-present – NIEHS Institutional Biosafety Committee (IBC)<ul style="list-style-type: none">• 2015-2018 Inaugural IBC Chair
2011- 2013	Veterinary Staff Scientist – Comparative Medicine Branch (CMB), National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, NC.
2003 – 2011	Attending Laboratory Animal Veterinarian, US – Environmental Protection Agency, Research Triangle Park, NC.
2005 – 2011	Attending Laboratory Animal Veterinarian, The Hamner Institutes for Health Sciences (formerly CIIT – Center for Health Sciences), Research Triangle Park, NC.
2008 – 2011	Attending Laboratory Animal Veterinarian, Integrated Laboratory Systems (ILS), Inc., Research Triangle Park, NC.
2000 - 2003	Research Instructor in Medicine, Department of Internal Medicine – Cardiology Division, Washington University School of Medicine, St. Louis, MO.

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- 1998 - 2003 Clinical Veterinarian, Division of Comparative Medicine, Washington University School of Medicine, St. Louis, MO.
- 1998 – 2000 Research Associate, Department of Internal Medicine - Cardiology, Washington University School of Medicine, St. Louis, MO.
- 1991-1998 Postdoctoral Fellow, Department of Comparative Medicine, University of Alabama at Birmingham - laboratory animal medicine residency/PhD research training.
- 1994-1998 Emergency Veterinary Clinician (part-time), Emergency Pet Care, Hoover, AL.
- 1992-1998 Associate Clinical Veterinarian (part-time), Oak View Veterinary Clinic, Pelham, AL.
- 1990-1991 Associate Clinical Veterinarian, Goodlettsville Animal Hospital, Goodlettsville, TN.
- 1990-1991 Emergency Veterinary Clinician, Nashville Pet Emergency Clinic, Nashville, TN.
- 1989-1990 Associate Clinical Veterinarian, Animal Hospital of North Charleston, North Charleston, SC.

HONORS:

- National Institutes of Health – Award of Merit (2014)
Outstanding Service Recognition Award – US Environmental Protection Agency (2011)

PROFESSIONAL ORGANIZATIONS:

- American College of Laboratory Animal Medicine – Diplomate (2005)
- Camp ACLAM Committee – 2008-2010 (Chairman 2010)
 - Credentials Oversight Committee – 2010-2013
- American Association for Laboratory Animal Science – National and Regional Branch
- National Meeting Local Arrangements Committee - 2007
- North Carolina Academy of Laboratory Animal Medicine
- Workshop in Laboratory Animal Medicine – Program Director – 2006-present
 - Board of Directors – 2013 - 2016

VETERINARY LICENSURE:

Veterinary Medical License: North Carolina, Missouri, Tennessee, Alabama, Georgia
Accredited Veterinarian - United States Department of Agriculture (Category II)

TEACHING ACTIVITIES:

- 2006 - present Course Director – North Carolina Academy of Laboratory Animal Medicine - Workshop in Laboratory Animal Medicine, North Carolina State University – College of Veterinary Medicine, Raleigh, NC
- 2011 - present Lecturer – Research Triangle Park Laboratory Animal Training Program
- Fall 2013 – Semester Coordinator
- 2012 - 2016 Lecturer – NIEHS Animal Care Contract – animal care and use training
- 2007 - 2017 Lecturer - Laboratory Animal Medicine – North Carolina State University – College of Veterinary Medicine.
- 2005 - 2011 Laboratory Animal Use training – U.S. Environmental Protection Agency
- 1998 - 2000 Laboratory Animal Seminar Series, Division of Comparative Medicine, Washington University School of Medicine
- 1994 - 1998 Essentials of Animal Experimentation, Department of Comparative Medicine, University of Alabama at Birmingham. Laboratory Animal Technician Training Course, Animal Resources Program, University of Alabama at Birmingham

REVIEWER:

- Nutrition - The International Journal of Applied and Basic Nutritional Sciences
Comparative Medicine
Lab Animal
Journal of the American Association for Laboratory Animal Science

OTHER PROFESSIONAL ACTIVITIES:

- 2013 – present National Academies of Science (NAS) - appointed committee member – Roundtable on Science and Welfare in Laboratory Animal Use, Institute for Laboratory Animal Research (ILAR)
- Roundtable Executive Committee – member - October 2018 - present
 - Gene Editing to Modify Animal Genomes for Research - Scientific and Ethical Considerations – December 2015
 - Workshop Planning Committee – member
 - Design, Implementation, Monitoring and Sharing of Performance Standards – April 2015
 - Workshop Planning Committee – Co-Chair
 - Transportation of Laboratory Animals – September 2014
 - Workshop Planning Committee - member
 - Invited Speaker
- 2017 -2018 Chairman – Subcommittee for the NIH Animal Research Advisory Committee (ARAC) to revise the “Guidelines for Tissue Collection for Genotyping Mice and Rats”.

RESEARCH SUPPORT:

- 12/02 to 11/03 PPAR γ in hepatic and cardiac lipid metabolism. Diabetes Research Training Center, Washington University School of Medicine. David M. Kurtz – PI.
- 03/00 to 11/03 The role of estrogen in fatty-acid utilization. NIH/NCRR, KO1-RR00160. David M. Kurtz – PI.

PUBLICATIONS:

Books:

The Clinical Chemistry of Laboratory Animals, 3rd ed. 2017. D.M. Kurtz and G.S. Travlos, eds. Boca Raton: Taylor & Francis. ISBN 9781420091137.

Journal Articles:

Kurtz, D.M. and Feeney, W.P. 2020. The Influence of Feed and Drinking Water on Terrestrial Animal Research and Study Replicability. *ILAR Journal - Accepted for publication.*

Whiteside, T.E., Qu, W., DeVito, M. J., Brar, S.S., Bradham, K.D., Nelson, C.M., Travlos, G.T., Kissling, G.E., Kurtz, D.M. 2020. Evaluation of Arsenic and Lead in Natural Healing Clay Applied Topically as a Treatment for Ulcerative Dermatitis in Laboratory Mice. *JAALAS - Accepted for publication.*

Sills, R., Johnson, G., Anderson, R., Johnson, C., Staup, M., Brown, D., Churchill, S., Kurtz, D., Cushman, J., Waidyanatha, S., Robinson, V., Cesta, M., Behl, M., Shockley, K., Little, P. 2019. Qualitative and Quantitative Neuropathology Approaches Using Magnetic Resonance Histology (Diffusion Tensor Imaging) and Stereology in a Hexachlorophene Model of Myelinopathy in Sprague Dawley Rats. *Submitted to Toxicologic Pathology.*

Kurtz, D.M., Glascoe, R., Caviness, G., Locklear, J., Whiteside, T., Ward, T., Adsit, F., Lih, F., Deterding, L., Churchwell, M.I., Doerge, D.R., Kissling, G.E. 2018, Acrylamide Production in Autoclaved Rodent Feed. *JAALAS 57 (6): 703-711.*

Philips, P.M., Jarema, K. A., Kurtz, D.M., MacPhail, R.C. (2010). An Observational Assessment Method for Aging Laboratory Rats. *JAALAS 49 (6): 792-799.*

Wood, P.A., Kurtz, D.M., Cox, K.B., Nyman, L.R., Elgavish, A., Hamm, D.A., Gower, B.A., Nagy, T.R. (2003). Role of genetic deficiency of fatty acid oxidation in metabolic syndrome/obesity. *Progress in Obesity Research 9: 293-296.*

Kurtz, D.M., Tian, L., Gower, B.A., Nagy, T.R., Pinkert, C.A., Wood, P.A. (2000). Transgenic studies of fatty acid oxidation gene expression in nonobese diabetic mice. *J Lipid Res 41: 2063-2070.*

Kurtz, D.M., Rinaldo, P., Rhead, W.J., Tian, L., Millington, D., Vockley, J., Hamm, D.A., Brix, A.E., Lindsey, J.R., Pinkert, C.A., O'Brien, W. E., Wood, P.A. (1998). Targeted disruption of mouse long-chain acyl-CoA dehydrogenase gene reveals crucial roles for fatty acid oxidation. *Proc Natl Acad Sci USA 95: 15592-15597.*

Guerra, C., Koza, R.A., Walsh, K., Kurtz, D.M., Wood, P.A., Kozak, L.P. (1998). Abnormal nonshivering thermogenesis in mice with inherited defects in fatty acid oxidation. *J Clin Invest 102: 1724-1731.*

Kurtz D.M., Tolwani R.J., Wood, P.A. (1998). Structural organization of the mouse long-chain acyl-CoA dehydrogenase gene (*Acadl*) and 5' regulatory region. *Mammalian Genome 9: 361-365.*

Tolwani, R.J., Farmer, S.C., Johnson, K.R., Davisson, M.T., Kurtz, D.M., Hinsdale, M.E., Cresci,

S., Kelly, D.P., Wood, P.A. (1996). Structure and chromosomal location of the mouse medium-chain acyl-CoA dehydrogenase-encoding gene and its promoter. *Gene* 170: 165-171.

Abstracts:

Johnston, M.D., Whiteside, T.E, and Kurtz, D.M. 2018. Toxigenic Profile of *Clostridium perfringens* Isolated from Natural Ingredient Laboratory Animal Diets. *JAALAS* 57 (5): 570. Presented at the National Meeting of the American Association for Laboratory Animal Science (AALAS), Baltimore, MD.

Kurtz, D.M., Locklear, J., Whitehead, G., McGee, C.A., Goulding, D.R., Myers, P.H., Blankenship, T.L., Laber, K., Cook, D.W., Peddada, S.D. 2017. Individually Ventilated Caging versus Static Microisolator Cages: Analysis of Intracage Air Quality, Murine Lung and Fecal Bacterial Microbiome, and Lung Inflammatory Gene Expression. *JAALAS* 56(5): 609. Presented at the 2017 National Meeting of the American Association for Laboratory Animal Science (AALAS), Austin, TX.

Adsit, F., Locklear, J., and Kurtz, D.M. 2017. Detection and Characterization of Atypical Strains of Enteric Bacteria in a Purified Animal Diet. *JAALAS* 56(5): 611. Presented at the 2017 National Meeting of the American Association for Laboratory Animal Science (AALAS), Austin, TX.

Adsit, F., Locklear, J., Whiteside, T.E., Ward, T., and Kurtz, D.M. 2016. Microbial Contamination of Purified Rodent Diets. *JAALAS* 55 (5): 638. Presented at the 2016 National Meeting of the American Association for Laboratory Animal Science (AALAS), Charlotte, NC.

Whiteside, T.E., Qu, W., Waalkes, M. DeVlto, M., Kurtz, D.M. 2015. Evaluation of Total Arsenic and Lead in Calcium Bentonite Clay Applied Topically as a Treatment for Ulcerative Dermatitis in Mice. *JAALAS* 54(5): 644. Presented at the 2015 National Meeting of the American Association for Laboratory Animal Science (AALAS), Phoenix, AZ. 3rd Place Winner – Laboratory Investigation category.

Kurtz, D.M., Glacoe, R.V., Caviness, G., Locklear, J., Ward, T., Whiteside, T., Adsit, F. 2015. Physical and Chemical Changes in Autoclaved Rodent Feed. *JAALAS* 54(5): 625. Presented and the 2015 National Meeting of the American Association for Laboratory Animal Science (AALAS), Phoenix, AZ.

Kurtz, D.M., Thigpen, J.T., Wolf, J.C. 2007. Disease due to Acid-Fast Bacilli Septicemia in a Colony of African Clawed Frogs (*Xenopus laevis*) and Japanese Medaka (*Oryzias latipes*). *JALAAS* 46(4): 90. Presented at the 2007 National Meeting of the American Association for Laboratory Animal Science (AALAS), Charlotte, NC.

Kurtz, D.M., Kelly D.P. Transcriptional Activation of Mitochondrial Fatty Acid Oxidation by Estrogen Receptor- α – Keystone Symposia – Nuclear Receptor Superfamily. Snowbird, UT. April 2002.

Wood, P.A., Kurtz, D.M., Brix, A.E., Hamm, D.A., Pinkert, C.A., Cox, K.B., Tian, T., Rhead, W.J., Millington, D.S., Rinaldo, P., Vockley, G., Nagy, T.R., Kozak, L.P. Using gene knockout and transgenic mouse models in diseases of fatty acid oxidation: LCAD deficiency, Insulin-dependent diabetes mellitus, and Obesity. Fourth International Conference on Fatty Acid

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Oxidation and Ketogenesis, Institute of Child Health, University College London Medical School. London, U.K., April 1998.

Kurtz, D.M., Brix, A.E., Pinkert, C.A., Wood, P.A. The Nonobese diabetic (NOD) mouse: A model for the study of fatty acid oxidation in the pathogenesis of Insulin-Dependent Diabetes Mellitus. *Lab Anim Sci* 47: 436-437, 1997. Presented at the 1997 National Meeting of the American Association for Laboratory Animal Science (AALAS), Anaheim, CA.

Wood, P.A., Kurtz, D.M., Tolwani, R.J., Cox, K.B., Hamm, D.A., Pinkert, C.A., Johnson, K.R., Davisson, M.T. 1997. Molecular Studies of Fatty Acid Oxidation in Mice: Gene Knockouts of Medium-Chain and Long-Chain Acyl-CoA Dehydrogenase. 7th International Congress of Inborn Errors of Metabolism. Vienna, Austria.

Kurtz, D.M., Hamm, D.A., Wood, P.A. (1996). Molecular Studies of the Mouse Long-Chain Acyl-CoA Dehydrogenase Gene. *Amer. J. of Human Genetics* 59: A202. Presented at the 1996 American Society of Human Genetics International Meeting, Minneapolis, MN.

INVITED PRESENTATIONS:

“The Influence of Feed and Drinking Water on Terrestrial Animal Research” – American Association of Laboratory Animal Science (AALAS) – National Meeting, Denver, CO, October 2019.

“Journey Planning for the Safe Transport of Laboratory Animals” – Institute for Laboratory Animal Research (ILAR), September 2014.

“Rodent Strain Nomenclature: What’s in a Name and Why Should I Care?” – East Carolina University, December 2012.

“Careers in Laboratory Animal Medicine” – University of Tennessee – College of Veterinary Medicine, October 2008.

“Disease due to Acid-Fast Bacilli Septicemia in a Colony of African Clawed Frogs (*Xenopus laevis*) and Japanese Medaka (*Oryzias latipes*)” – American Association of Laboratory Animal Science – National Meeting, Charlotte, NC, October 2007.

“The Ins and Outs of Rodent Transgenesis” – University of Georgia, College of Veterinary Medicine, Athens, GA, March 2006.

“Rodent Pathogens and Research Effects” – CIIT Center for Health Research, Research Triangle Park, NC, February 2006.

“Transgenesis: Peering Inside the Black Box and Gaining Control” – National Institute of Environmental Health Sciences, Laboratory of Experimental Pathology, Research Triangle Park, NC October 2005.

“Rodent Strain Nomenclature: Inbred Strains and Genetically Engineered Mice (GEM)” – Understanding Transgenics Workshop, NIEHS/ILS, Research Triangle Park, NC, November 2004.

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“Rodent Helicobacter: Can We Stomach Them?” – U.S. Environmental Protection Agency/NHEERL, Research Triangle Park, NC, December 2003.

“Transgenesis: The Molecular Basis for Transgene Incorporation or Homologous Recombination” – Comparative Medicine Lecture Series, Washington University School of Medicine, May 2000.

“Transgenic Animal Methodologies in Biomedical Research” – Purina Mills, Inc., St. Louis, MO, September 1998.

“The Nonobese Diabetic (NOD) mouse: A model for the study of fatty acid oxidation in the pathogenesis of Insulin-Dependent Diabetes Mellitus” – American Association for Laboratory Animal Science, National Meeting, Anaheim, CA, October 1997.