

Terry L. Blankenship-Paris

EDUCATION--Degrees/Residency

Diplomate, American College of Laboratory Animal Medicine, 1995
Laboratory Animal Medicine Residency-UNC, Chapel Hill, NC--August 1990-July 1993
M.S.-Experimental Pathology--UNC-Chapel Hill, NC--December, 1993
D.V.M.--Auburn University, Auburn, AL--1986
B.S.--Morehead State University, Morehead, KY--1983

EMPLOYMENT HISTORY

National Institute of Environmental Health Sciences, NIH, DHHS, Research Triangle Park, NC

- Head, Veterinary Medicine Section, Comparative Medicine Branch.
- March 2000-present.
- Provide oversight of clinical services for laboratory animals through supervision of veterinary medicine section including animal health checks and surgical, anesthesia, and necropsy services. Oversee compliance with rules and regulations of laboratory animals through animal protocol review, program review, and facility site visits. Training and education of investigators, laboratory personnel, and animal care personnel through formal seminars and hands-on lab sessions on issues in laboratory animals including husbandry, disease, appropriate anesthesia/analgesia, animal models. Research within VMS involves anesthesia and analgesia refinement

The Pennsylvania State University, University Park, PA

- Assistant Director in Animal Resource Program, and Senior Research Associate and Associate Professor in Department of Veterinary Science, College of Agriculture.
- August 1996-March 2000.
- Member of the IACUC evaluating protocols, performing site visits, establishing policies. Training and education of investigators, laboratory personnel, and animal care personnel on rules and regulations, anesthesia/analgesia, alternatives. Oversight of laboratory animal health monitoring program. Provide clinical, surgical, and anesthesia services. Supervision of veterinary support staff. Organize and instruct 3-credit course entitled Laboratory Animal Science (Veterinary Science 405) and instruct section of a 3- credit course entitled General Animal Pathology (Veterinary Science 420). Collaborative research in wildlife reintroduction and neonatal animal models of bacterial infectious disease.

Division of Laboratory Animal Resources, Duke University, Durham, NC

- Clinical Veterinarian
- August 1993-August 1996.
- Provide clinical veterinary services including diagnostics, preventative medicine, surgery, treatment, post procedure care oversight, insure compliance with government regulations and guidelines concerning the care and use of laboratory animals. Member of the IACUC evaluating protocols and performing site visits. Training of technicians and investigators in the care and use of laboratory animals including handling, anesthesia, analgesia, appropriate models, and manipulations. Facilities house the

following animals: nonhuman primates, cats, dogs, rabbits, ferrets, mice, rats, amphibians, fish, chickens, swine, sheep, goats, mini-opossums, gerbils, hamsters.

Division Laboratory Animal Medicine-UNC, Chapel Hill, NC

- Resident/research associate
- August 1990-July 1993.
- Provide clinical veterinary services in the division; training in laboratory animal medicine including: surgery, disease management, pathology, control, prevention, serological and microbiological monitoring; regulations and guidelines associated with the care and use of animals in research; sit informally on the animal care and use committee. Research studying *Clostridium difficile* necrohemorrhagic typhlitis in hamsters. The facility includes the following species: rats, mice, cotton rats, hamsters, guinea pigs, ferrets, cats, dogs, turkeys, chickens, pigtail and cynomolgus primates.

Cat Clinic and Hospital, Pittsburgh, PA

- Clinical veterinarian in private practice.
- July 1989-June 1990.
- Care, monitoring, and treatment of feline patients including surgery, radiology, diagnostics, preventative medicine and client education.

West Virginia University Department of Biochemistry, Morgantown, WV

- Research associate
- December 1986-June 1989.
- Basic research involving the biochemical and immunochemical evaluation of diseased guinea pig articular cartilage with emphasis on proteoglycan population changes. Included extraction of the proteoglycans from cartilage, electrophoreses of agarose and acrylamide gels, electroblotting to nitrocellulose, and immunolocalization using monoclonal antibodies developed in the laboratory. Also completed work in characterizing some of these antibodies. Involved informally with the WVU laboratory animal facility where duties included disease monitoring, prevention, and control.

Auburn University Department of Microbiology, Auburn, AL

- Research assistant
- 1984-1986 part time.
- Research with *Moraxella bovis*, causative agent of pinkeye in cattle. Presented talk at the 1984 Conference of Research Workers in Animal Diseases in Chicago, IL. Obtained the Edwin R. Goode, Jr. Memorial Award for large animal research in 1986.

CERTIFICATIONS/LICENSES

Licensed to practice veterinary medicine in Kentucky, North Carolina, West Virginia
USDA accredited (Category 2) to perform interstate inspection of animals in North Carolina

ORGANIZATIONS/AFFILIATIONS

Reviewer:

Journal of the American Association for Laboratory Animal Science
Comparative Medicine

Blankenship-Paris

Journal of Video Experiments (JOVE)
PLOS One
Laboratory Animal
American College of Laboratory Animal
Medicine American Veterinary Medical
Association
American Society of Laboratory Animal Practitioners
American Association for Laboratory Animal Science
North Carolina Academy of Laboratory Animal
Medicine North Carolina Veterinary Medical
Association

NIEHS

Past:

Diversity Council
Quality Ideas

Ongoing:

Summer Internship Program
Office of Science Education and Diversity Program Collaboration
Science Teacher education workshop (2 week STaRs program)
Citizen School
North Carolina Association of Biomedical Research teacher workshop

Scientific Presentations

1. Donna R. Webb-Wright, Amy E. Brix, **Terry L. Blankenship-Paris**. “The Tale of the Crooked Tail” National Annual Meeting of the American Association for Laboratory Animal Science (AALAS) 2019
2. David Goulding, Page Myers, Angela Dickerson, Molly Comins, Rebecca Wiltshire, Kathy Laber, and **Terry Blankenship-Paris** “Comparison of the efficacy of two types of antibiotic mixtures in gut flora depletion in mice” Poster presented at AALAS 2019
3. Dickerson, Angela; Myers, Page; Goulding, David; Wiltshire, Rebecca; Laber, Kathy; Lih, Fred; Comins, Molly; McGee, Christopher A.; **Blankenship-Paris, Terry L** “Comparison of three formulations of buprenorphine in C57BL/6 mice” Poster presented at AALAS 2019
4. Christopher McGee, David Goulding, Korey Stevanovic, Jesse Cushman, **Terry Blankenship-Paris** “Development of a laboratory animal individually ventilated cage preference test for bedding and enrichment refinement.” Poster presented at AALAS 2018
5. Comins, M.; Bernhardt, Miranda; Jackson-Humbles, Daven; Dickerson Angela; McGee, Christopher A.; Myers, Page H.; Goulding, David R.; and **Blankenship-Paris, Terry L**,. Report of an adverse phenotype: The Case of the Chirping Mice. Poster presented at AALAS 2017

6. Dickerson, Angela; Comins, M.; Myers, Page; Goulding, David R.; McGee, Christopher A.; and **Blankenship-Paris, Terry L.** Evaluation on the Efficacy of Palatability Enhancers in Antibiotic Cocktails. Poster presented at AALAS 2017
7. Goulding, David; Kissel, Casey; Myers, Page; McGee, Christopher A.; Hackney, Sandra; and **Blankenship-Paris, Terry L.** Finding the balance with rodent enrichment: A study of pros and cons in an animal facility. Poster presented at AALAS 2017
8. Kurtz, David M.; Fannin, R.; Locklear, Jacqueline; Whiteside, Tanya E.; Whitehead, Gregory; McGee, Christopher A.; Goulding, David; Myers, Page H.; **Blankenship-Paris, Terry L.**; Laber, Kathy; Cook, Donald; and Peddada, Shyamal. Individually-Ventilated Versus Static Microisolator Cages - Analysis of Intracage Air Quality, Murine Fecal and Lung Bacterial Microbiota and Lung Immune Transcriptome. Poster at AALAS 2017
9. McGee, Christopher A.; Eldridge, Daniel, Myers, Page; Goulding, David; and **Blankenship-Paris, Terry L.** "The Effect of Buprenorphine on Wound Healing Models: A Clinical Evaluation of Buprenorphine in Wound Healing" Poster presented at AALAS 2017
10. McGee, Chris, Lih, Fred, Myers, Page, Goulding, David, **Blankenship-Paris, Terry** "A comparison of two buprenorphine Quantitative Methods" Poster presented at AALAS 2016
11. Angela Dickerson, David Goulding, Sandra Hackney, Page Myers, Christopher McGee, Jacqueline Locklear, and **Terry Blankenship-Paris** "Use of hand warmers and a portable heater to provide supplemental heat in an IVC system" Poster presented at AALAS 2016
12. Angela Dickerson, David Goulding, Sandra Hackney, Page Myers, and **Terry Blankenship-Paris** "Report of a Spontaneous Mutation With Limb Deformities In a Colony of Swiss Webster Mice" Presentation at AALAS 2016
13. David Goulding, Page Myers, Christopher McGee, Sandra Hackney, Jacqueline Locklear, Sandra McBride, Shyamal Peddada, David Kurtz, and **Terry Blankenship-Paris** "Moving mice from static caging to IVC: Effects on microbiome, breeding performance and blood chemistry" Poster presentation AALAS 2016
14. Page Myers, Tanya Whiteside, Jacqueline Locklear, and **Terry Blankenship-Paris** "Antibiotic Drinking Water for Immunocompromised Strains: Does the Type of Water Make a Difference?" Poster presentation AALAS 2016
15. David R. Goulding, G. Jean Harry, Grace E. Kissling, **Terry L. Blankenship-Paris** and Diane B. Forsythe Differences in Activity in Male and Female B6C3F1/N Mice Using the Open Field and Voluntary Running Wheel. AALAS 2011
16. Septicemia caused by the opportunistic bacteria: *Burkholderia cepacia* in C57BL/6 mice Page Myers, Tanya Whiteside, **Terry Blankenship**, Julius Thigpen, Melissa Rios, Jacqueline Locklear, Sanford Feldman, Mary Grant and Diane Forsythe AALAS 2011

17. Page H. Myers, **Terry L. Blankenship**, James A. Clark, Danielle Waxer, Mary F Grant and Diane B. Forsythe Clinical Support of Research Animals: Not Always Beneficial? AALAS 2009
18. Goulding, DR, **Blankenship TL**, Myers, PH, Grant, MF, Forsythe, DB. A Novel method that Increases the Efficiency of Carbon Dioxide Euthanasia in a Rodent Facility. AALAS 2009
19. Goulding D., Myers, P., Goulding E., **Blankenship-Paris, T.**, and Forsythe, D. The Effects of Perioperative Analgesia on Embryonic Loss in the Crl:CD1(ICR) Mouse Undergoing Embryo Transfer. AALAS, Salt Lake City, UT. 2006
20. Myers, P. **Blankenship-Paris T.**, Liu, J. Goulding, D., Clark, J., Rouse, C., and Forsythe, D. Prevention of Acetaminophen Toxicity by S-Adenosyl-L-Methionine (SAME) in Male F344 Rats. Poster Session, 57th Annual Session of AALAS, Salt Lake City, UT. 2006
21. J. DeGraff, P. Myers, **T. Blankenship**. "Evaluating an Alternative Nutrient Delivery Method for Mice Requiring Nutritional Support" Poster Session, Annual Session of AALAS, Salt Lake City, UT, October 2005
22. Myers P, Demianenko T, StPierre K, **Blankenship-Paris T**, Goulding D, Clark J, Grant M and Forsythe D. Fuzzy Clawed Frogs: Heteropolaria in a *Xenopus laevis* Colony. Poster Session, AALAS, Seattle, WA 2003
23. Goulding D, Pearse G, Mahler J, **Blankenship-Paris T**, Myers P, Demianenko T, Clark J, and Forsythe D. Spontaneous Extra-Cranial Hemangiosarcoma with Cardiac Metastases in a C57BL/6J Beta pol +/- Trp53 -/- mouse. Poster Session, 54nd Annual Session of AALAS, Seattle, WA October, 2003
24. St. Pierre K, Demianenko T, Myers P, **Blankenship-Paris T**, Grant M, and Forsythe D. Gas Bubble Disease in Juvenile *Xenopus laevis*. Poster Session, 54nd Annual Session of AALAS, Seattle, WA.. October, 2003

Chapter/Book Publications

1. Caterson, B. Calabro, T., **Blankenship-Paris, T.**, et al "Methods for Production and Characterization of Monoclonal Antibodies against Connective Tissue Proteoglycans", Methods in Cartilage Research, Academic Press, 1990, pp164-167
2. **Blankenship, T.** "Laboratory Animal Science" Veterinary Science 405 Pennsylvania State University, PA 1998, 1999, 2000

Journal Publications

1. Cho HY, Miller-DeGraff L, **Blankenship-Paris T.**, Wang X, Bell DA, Lih F, Deterding L, Panduri V, Morgan DL, Yamamoto M, Reddy AJ, Talalay P, Kleeberger SR Sulforaphane enriched transcriptome of lung mitochondrial energy metabolism and provided pulmonary injury protection via Nrf2 in mice. Toxicol Appl Pharmacol. 2018 Dec 5;364:29-44
2. **Blankenship-Paris, TL**, Dutton, JW, Goulding DR, McGee CA, Kissling, GE, and Myers, PH. "Evaluation of Buprenorphine Hydrochloride Pluronic Gel Formulation in Male C57BL/6 Mice". Lab Animal 45(10):370-9, 2016
3. Leylek, R., **Blankenship-Paris, T.**, Boyle, M. "Pathology in Practice: Abdominal Mass in a Mouse" Journal of the American Veterinary Medical Association 245 (2): 191-193, 2014
4. Coralie Zegre Cannon, Grace E. Kissling, David R. Goulding, Angela P. King-Herbert, **Terry Blankenship-Paris.** "Analgesic effects of tramadol, carprofen or multimodal analgesia in rats undergoing ventral laparotomy" Lab Animal 40(3): 85-93, 2011
5. Jacquelyn T Tubbs, Grace E Kissling, Greg S Travlos, David R Goulding, James A Clark, Angela P King-Herbert, **Terry L Blankenship-Paris.** "Effects of Buprenorphine, Meloxicam, and Flunixin Meglumine as Postoperative Analgesia in Mice" JAALAS 50(2): 1-7, 2011
6. Coralie Zegre Cannon, Grace E. Kissling, Mark J. Hoenerhof, Angela P. King-Herbert, **Terry Blankenship-Paris.** "Evaluation of dosages and routes of administration of tramadol analgesia in rats using hot-plate and tail-flick tests" Lab Animal 39(11): 342- 351, 2010
7. David R Goulding, Page H. Myers, Eugenia H. Goulding, **Terry L. Blankenship**, Mary F Grant, and Diane B. Forsythe. "The Effects of Perioperative Analgesia on Litter Size in the Crl:CD1(ICR) Mouse Undergoing Embryo Transfer" JAALAS 9(4):423-426, 2010
8. Marczak Ewa D, Jinsmaa Yunden, Myers Page H, **Blankenship Terry**, Wilson Ralph, Balboni Gianfranco, Salvadori Severo, Lazarus Lawrence H. "Orally administered H- Dmt-Tic-Lys-NH-CH₂-Ph (MZ-2), a potent mu/delta-opioid receptor antagonist, regulates obese-related factors in mice" .European Journal of Pharmacology 2009;616(1- 3):115-2, 2009
9. Goulding,D, **T. Blankenship-Paris**, G. Lewbart, P. Myers, T. Demianenko, J. Clark,D. Forsythe. "Gill trematodes (flukes) in wild-caught killifish (*Fundulus heteroclitus*).". Contemporary Topics. 43(2):27-29, 2004

10. Dzialak, MR, Serfass, TL, Shumway, DL, Hegde, LM, **Blankenship, TL**. "Chemical Restraint of Fishers (*Martes pennati*) with Ketamine and Medetomidien-Ketamine" *Journal of Zoo and Wildlife Medicine* 33(1): 45-51, 2002
11. Dzialak, M.R., Serfass, T.L., **Blankenship, T.L.**, "Reversible Chemical Restraint of Fishers with Medetomidine-Ketamine and Atipamezole" *Journal of Wildlife Management* 65(1):157-163, 2001
12. **Blankenship_Paris, T.**, Schenkman, D., "Arteriovenous Abnormality in a Baboon (*Papio spp.*)". *Lab Animal* 26(10): 19-20, 1997
13. **Blankenship-Paris, T.**, Schenkman, D., "Progressive Neurological Deterioration in a Japanese Macaque (*Macaca fuscata*). *Lab Animal* 25(8): 17-20, 1996
14. **Blankenship-Paris, T.**, Chang, J., Dalldorf, F.G., Gilligan, P.H. "In vivo and in vitro Studies of *Clostridium difficile* induced Disease in Hamsters fed an Atherogenic Diet, High Fat Diet". *Laboratory Animal Science* 45(1): 47-53, 1995
15. **Blankenship-Paris, T.**, Walton, B.J., Hayes, Y.O., Chang, J. "*Clostridium difficile* Infection in Hamsters fed an Atherogenic Diet." *Veterinary Pathology* 32(3): 269-273, 1995
16. **Blankenship-Paris, T.**, Chang, J., Bagnell, R. "Enteric Coccidiosis in a Ferret". *Laboratory Animal Science* 43(4): 361-363, 1993
17. Smith, P., **Blankenship, T.**, Hoover, T., Powe, T. "Evaluation of Two Commercial Infectious Bovine Keratoconjunctivitis Vaccines", *American Journal of Veterinary Research* 51(7): 1147-1150, 1990