Curriculum Vitae

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EDUCATION

1992 University of Tennessee, Knoxville, Tennessee, M.S., Biomedical Sciences
1982 Tennessee Technological University, Cookeville, Tennessee, M.A., Education
1971 Tennessee Technological University, Cookeville, Tennessee, B.S., Biology

WORK EXPERIENCE

A. OAK RIDGE NATIONAL LABORATORY (ORNL)

Technical Associate, 2001-Present

- Conducted a variety of Genomics and Molecular Biology experiments including PCR, real time qRTPCR, DNA sequencing, high-throughput heteroduplex DNA analysis to identify point mutations in the mouse genome, automated liquid handling protocols, DNA and RNA extractions, nucleic acid hybridizations and gene expression analysis using commercial nylon membrane microarrays
- Experience with both PC and Macintosh computers. Computer proficiency in Microsoft Excel, Word, and PowerPoint. Proficiency in Spectrumedix Checkmate™ and Revelation™ Software for high throughput mutation scanning using temperature gradient capillary electrophoresis (TGCE). Proficiency in the Eppendorf epMotion 5075LH software for automated liquid handling.
- Data management and analysis for high throughput mutation scanning
- Conducted Mammalian Genetics experiments to determine low-dose radiation effects in mice. Participated in the radiation exposure, tissue retrieval, storage of tissue, and record of tissue location. Prepared RNA and cDNA from tissues dissected from radiation-exposed mice and conducted nucleic acid hybridizations and RTPCR analysis on samples.
- Assisted in Cell Biology experiments to examine female-specific response to DNA damage in sperm: Superovulated female mice from various strains, collected oocytes and sperm and performed *in vitro* fertilization. This work also involved expertise in mouse euthanasia and dissection of both adult male and female reproductive organs.
- Lab Safety Manager for both Molecular Biology and Radiation labs. Contact person for the lab RCRA Satellite Accumulation Area. This involved coordination and resolution of general lab issues, coordinating equipment maintenance and repair, monthly assignment of lab duties, ordering supplies, resolving credit card records, and communicating with waste management and environmental protection personnel.

- Training of numerous students and technicians in molecular and genomics techniques.
- ORNL Volunteer Activities: United Way International Festival Southern Appalachian committee, Community Day volunteer, Team UT-Battelle charity walks including the Juvenile Diabetes, March of Dimes, and Susan B. Komen Breast Cancer Race for the Cure.
- Represent the Biosciences Division on the ORNL Committee for Women.

Research Associate II, 1995-2001

- Conducted Mammalian Genetics experiments such as mutant mouse stocks maintenance and breeding, specific locus experiment, dominant lethal tests Genotyping mutants as well as determination of recombination frequency using many molecular genetic techniques, order molecular probes and lab supplies
- Manager of the lab RCRA Satellite Accumulation Area.
- Targeted Mutagenesis Lab (1/96-4/97; refer to Research Associate I tasks). *In situ* hybridization, PCR, and Southern blotting. Flow cytometric analysis to examine apoptosis and hematopoiesis.
- Experience in standard protocols for mouse shipments
- Served as Biology Division representative to the United Way two years, participated as volunteer at Community Day, represented the Mammalian Genetics group at Women in Science Day, and participated in the Multiple Sclerosis Walk with the Mouse Chasers,

Research Associate I, 1994-1995

- Generated germ line chimeric mice from targeted embryonic stem cells.
- Maintained multiple mouse strains and mutant stocks.
- Molecular analysis of mice generated by targeted mutagenesis.
- Tissue culture work with embryonic stem cells.
- Helped train and supervise students and visitors to the lab. Maintained the lab, GCO for radiation area, and Generator Certifier for Solid Low Level Waste.

Laboratory Technician, 1980-1994

- Maintenance of bacterial, bacteriophage, yeast, and DNA stocks.
- Experiments with bacteriophage.
- Purified yeast 5′- - 3′ exoribonuclease and poly (a) polymerase I.; exoribonuclease and RNA polymerase from human placenta.
- Served as temporary Radiation Safety Officer

B. MORGAN COUNTY SCHOOL SYSTEM

Teacher, 1971-1980

Coalfield High School: Science, Biology, and Chemistry
Oakdale Elementary School: Learning Disabilities and Grade Two.

PUBLICATIONS

1. Masker, W.E., Dodson, Lori A., and Maupin, M.K. (1985) Mutagenesis of Bacteriophage T7 and T7 DNA by Alkylation Damage. *Journal of Virology*. 56, 644-646.

2. Stevens, A., and Maupin, M.K. (1987) A 5′-3′ Exoribonuclease of Saccharomyces cerevisiae: Size and Novel Substrate Specificity. *Archives of Biochemistry and Biophysics*. 252, 339-347.

3. Stevens, A., and Maupin, M.K. (1987) A 5′-3′ Exoribonuclease of Human Placental Nuclei: Purification and Substrate Specificity**.** *Nucleic Acid Research*. 15, 695-708.

4. Stevens, A., and Maupin, M.K. (1989) 5, 6-Dichloro-β-D-Ribofuranosylbenzimidazole Inhibits a Hela Protein Kinase that Phosphorylates an RNA Polymerase II-Derived Peptide. *Biochemical and Biophysical Research Communicatioins***.** 159, 508-515.

5. Larimer, F.W., Hsu, C.L., Maupin, M.K., and Stevens, A. (1992) Characterization of the XRN1 Gene Encolding a 5′ -- 3′ Exoribonuclease Sequence Data and Analysis of Disparate Protein and mRNA Levels of Gene-disrupted Yeast Cells. *Gene*. 120, 51-57.

6. Banks, Theresa A., Rouse, Barry T., Kerley, Marilyn K., Blair, Patrick J., Godfrey, Virginia L., Kuklin, Nelly A., Bouley, Donna M., Thomas, Johnson., Kanangat, Sivadasan, and Mucenski, Michael L. (1995) Lymphotoxin-a-Deficient Mice: Effects on Secondary Lymphoid Organ Development and Humoral Immune Responsiveness. *Journal of Immunology*. 155, 1685-1693.

7. Russell, Liane B., Hunsicker, Patricia R., Kerley, Marilyn K., Johnson, Dabney K., Shelby, Michael D. (2000) Bleomycin, Unlike Other Male-Mouse Mutagens, is Most Effective in Spermatogonia, Inducing Primarily Deletions. *Mutation Research***.** 469, 95-105.

8. Russell, Liane B., Hunsicker, Patricia R., Kerley, Marilyn K., Pyle, April, Saxton, Arnold M. (2004) Etoposide exposure during male mouse pachytene has complex effects on crossing-over and causes nondisjunction. *Mutations Research* 565, 61-77.

9. Culiat, Cymbelina T., Klebig, Mitchell L., Liu, Zhaowei, Monroe, Heidi, Stanford, Beverly, Desai, Jayashree, Tandan, Samvit, Hughes, Lor, Kerley, Marilyn K., Carpenter, Donald A., Johnson, Dabney K., Rinchik, Eugene M., Li, Qingbo (2005) Identification of Mutations from Phenotype-driven ENU Mutagenesis in Mouse Chromosome 7. *Mammalian Genome.* 15, 1-13.

10. Edward J. Michaud, Cymbeline T. Culiat, Mitchell L. Klebig, Paul E. Barker, K.T. Cain, Debra J. Carpenter, Lori L. Easter, Carmen M. Foster, Alysyn W. Gardner, Z.Y. Guo, Kay J. Houser, Lori A. Hughes, Marilyn K. Kerley, Zhaowei Liu, Robert E. Olszewski, Irina Pinn, Ginger D. Shaw, Sarah G. Shinpock, Ann M. Wymore, Eugene M. Rinchik, Dabney K. Johnson (2005) Efficient gene-driven germ-line point mutagenesis of C57BL/6J mice. *BMC Genomics.*6:164.

11. Jayashree Desai, Mark E. Shannon, Mahlon D. Johnson, David W. Ruff, Lori A. Hughes, Marilyn K. Kerley, Donald A. Carpenter, Dabney K. Johnson, Eugene M. Rinchik, and Cymbeline T. Culiat (2005) *Nell1*-deficient mice have reduced expression of extracellular matrix proteins causing cranial and vertebral defects. *Human Molecular Genetics.*15. 1329-1341.