

Curriculum Vitae

Kevin Edward Gerrish

Office Address

National Institute of Environmental Health Sciences
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Education

2001 **VANDERBILT UNIVERSITY**, Nashville, TN
Ph.D. in Molecular Physiology and Biophysics

1989 **UNIVERSITY OF ARIZONA**, Tucson, AZ
M.S. in Toxicology

1987 **NORTHLAND COLLEGE**, Ashland, WI
B.S. in Biology

Employment **National Institute of Environmental Health Sciences (5/2018-Present)**

Molecular Genomics Core Laboratory
Director (GS-14)

- * Direct core laboratory with 2.1 million dollar budget and 4,000 square feet of laboratory space
- * Supervise 6 biologists and 2 Post-Baccalaureate IRTA Fellows
- * Present data in oral or written form to communicate results from genomics experiments
- * Collaborate with NIEHS investigators to publish genomics data in scientific journals
- * Advise NIEHS investigators on experimental design for genotyping, microarray, Nanostring, and sequencing experiments
- * Perform bioinformatic analyses of genomic experiments
- * Coordinate genomics technique and software training for NIEHS scientists
- * Collaborate with private sector for development of new genomic approaches
- * Implement new genotyping, microarray, and sequencing technologies
- * Establish quality metrics and QA/QC protocols for genotyping, microarray, and sequencing analyses
- * Maintain scientific equipment

National Institute of Environmental Health Sciences (8/2014-5/2018)

Molecular Genomics Core Laboratory
Acting Director (GS-13)

- * Direct core laboratory with 2.1 million dollar budget and 4,000 square feet of laboratory space
- * Supervise 7 biologists
- * Present data in oral or written form to communicate results from genomics experiments
- * Collaborate with NIEHS investigators to publish genomics data in scientific journals
- * Advise NIEHS investigators on experimental design for genotyping, microarray, Nanostring, and sequencing experiments
- * Perform bioinformatic analyses of genomic experiments

- * Coordinate genomics technique and software training for NIEHS scientists
- * Collaborate with private sector for development of new genomic approaches
- * Implement new genotyping, microarray, and sequencing technologies
- * Establish quality metrics and QA/QC protocols for genotyping, microarray, and sequencing analyses
- * Maintain scientific equipment

National Institute of Environmental Health Sciences (1/2012-7/2014)

Molecular Genomics Core Laboratory

Deputy Director (GS-13)

- * Manage core laboratory with 2.1 million dollar budget and 4,000 square feet of laboratory space
- * Supervise 9 biologists (8 full-time and 1 contract)
- * Present data in oral or written form to communicate results from genomics experiments
- * Collaborate with NIEHS investigators to publish genomics data in scientific journals
- * Advise NIEHS investigators on experimental design for genotyping, microarray, Nanostring, and sequencing experiments
- * Perform bioinformatic analyses of genomic experiments
- * Coordinate genomics technique and software training for NIEHS scientists
- * Collaborate with private sector for development of new genomic approaches
- * Implement new genotyping, microarray, and sequencing technologies
- * Establish quality metrics and QA/QC protocols for genotyping, microarray, and sequencing analyses
- * Maintain scientific equipment

National Institute of Environmental Health Sciences (12/2007-12/2011)

Microarray Core Laboratory

Technical Laboratory Manager (GS-13)

- * Manage core laboratory with 1 million dollar budget and 2,000 square feet of laboratory space
- * Supervise 4 full-time biologists
- * Present data in oral or written form to communicate results from genomics experiments
- * Collaborate with NIEHS investigators to publish genomics data in scientific journals
- * Advise NIEHS investigators on experimental design for genomics experiments
- * Perform bioinformatic analyses of genomic experiments
- * Coordinate genomics technique and software training for NIEHS scientists
- * Collaborate with private sector for development of new genomic approaches
- * Implement new array technologies for genomic analyses
- * Established quality metrics and QA/QC protocols for microarray analyses
- * Collaboration with FDA for regulatory submission of gene expression data
- * Maintain microarray equipment

National Institute of Environmental Health Sciences (1/2004-12/2007)

National Center for Toxicogenomics (NCT) and Environmental Stress and Cancer Group

IRTA Post-Doctoral Fellow

- * Implement microarray technologies for analysis of disease models
- * Utilize quality metrics and QA/QC protocols for microarray chip analysis

- * Analyze and interpret microarray data using multiple bioinformatics tools
- * Advise experimental, data analysis, and database design teams
- * Present data in oral or written form to communicate results
- * Organize and coordinate a weekly seminar series
- * Supervise students and lab personnel

Vanderbilt University (9/2001-12/2003)

Department of Molecular Physiology and Biophysics, Nashville TN
Post-Doctoral Fellow

- * Isolated important transcriptional regulatory regions using molecular biology and bioinformatic tools
- * Assessed the activity of key transcriptional regulatory regions utilizing *in vitro* and *in vivo* analyses
- * Presented data in oral or written form to communicate results
- * Supervised graduate students and lab personnel

University of Arizona (7/1991-8/1993)

Arizona Cancer Center Department of Radiation Oncology, Tucson AZ
Research Technician

- * Designed and completed large scale, long term, UV-induced skin carcinogenesis and immunosuppression studies in mice
- * Designed and performed molecular biology studies to determine mechanisms of UV-induced skin carcinogenesis and immunosuppression
- * Adapted assays to study mechanism of L-alpha-difluoromethylornithine (DFMO)-induced ototoxicity in mice
- * Presented data in oral or written form to communicate results
- * Managed laboratory resources and supervised lab personnel

University of Arizona (9/1989-7/1991)

University of Arizona, Department of Pharmacology and Toxicology, Tucson AZ
Research Technician

- * Prepared complex mixtures of venom and anti-venin solutions
- * Performed experiments with mice to test efficacy of a new ovine antigen binding fragment (Fab) antivenin
- * Participated in GLP training and wrote SOPs for laboratory studies
- * Contributed to final report submitted to FDA for approval
- * Presented data in oral or written form to communicate results
- * Managed laboratory resources and supervised graduate students

Honors

Ratings-Based Individual Cash Award, 2019
Ratings-Based Individual Cash Award, 2018
Ratings-Based Individual Cash Award, 2017
Ratings-Based Individual Cash Award, 2016
Ratings-Based Individual Cash Award, 2015
Ratings-Based Individual Cash Award, 2014
Ratings-Based Individual Time Off Award, 2013
Quality Step Increase, 2012
NIH Award of Merit, 2011
Ratings-Based Individual Cash Award, 2011
Non-Ratings-Based Individual Cash Award, 2011
Ratings-Based Individual Cash Award, 2010
NIH Award of Merit, 2009
Ratings-Based Individual Cash Award, 2009

Ratings-Based Individual Cash Award, 2008

Ad Hoc Journal Reviewer

Biomedicine and Pharmacotherapy, Biotechniques, BMC Genomics, Diabetes, Endocrinology, Frontiers in Genetics, Frontiers in Genomics, Frontiers in Neuroscience, Journal of Biological Chemistry, Journal of Pharmacology and Experimental Therapeutics, Molecular and Cellular Biology, Molecular Endocrinology, NIEHS Internal Manuscript Review, Biology, Molecular Endocrinology, Physiological Genomics, Toxicology *in vitro*, Toxicological Sciences

Invited Lectures

"The Molecular Genomics Core (MGC): Developing and Providing Genomics Services for NIEHS Scientists" NIEHS Signal Transduction Laboratory Seminar Series, December 2, 2019

"Purification of Plasma Circulating Cell-Free DNA and Development of Molecular Assays for Basic, Clinical, and Toxicology Research" Mid-Atlantic Directors and Staff of Scientific Cores and Northeast Regional Life Sciences Core Directors Joint Meeting " Exploring New Technologies to Drive Advances in Basic, Clinical and Translational Research" November 7, 2019

"Overview of the National Institute of Environmental Health Sciences (NIEHS) Genomics Program" presented at the Agilent Microarray User Group meeting, RTP, NC, September, 2014

"Doxorubicin Mechanism-Based Marker Study-Manuscript Update" presented at the ILSI Health and Environmental Sciences Institute (HESI) Genomics Technical Committee meeting, Washington, D.C., November, 2011

"Doxorubicin Mechanism-Based Marker Study-Manuscript Topic Discussion" presented at the ILSI Health and Environmental Sciences Institute (HESI) Genomics Technical Committee meeting, Washington, D.C., November, 2010

"Doxorubicin Mechanism-Based Marker Study-Update on Data Analyses" presented at the ILSI Health and Environmental Sciences Institute (HESI) Genomics Technical Committee meeting, Washington, D.C., October, 2009

"How Microarrays are used at the NIH," presented at the Microarray World Congress, San Francisco, CA, August, 2009.

"Toxicogenomics: Using Genomic Approaches in Biomedical Research," presented at Rx for Scientific Literacy: Chemicals, the Environment and You, RTP, NC, July, 2009.

"Using Genomic Approaches in Biomedical Research," presented at the Teaching Genetics and Gene Expression Using Microarrays Workshop, Alamance Community College, Graham, NC, June, 2009.

"Toxicogenomics, Systems Toxicology, and a Genomic Quest for Biomarkers," presented at 2nd Inter-Agency Computation Toxicology Colloquium FDA-NCTR, Jefferson, AR, December, 2008.

“Toxicogenomics is a Team Sport-The Role of a Molecular Biologist/Toxicologist,” presented at Society of Toxicology Annual Meeting, Charlotte, NC, March, 2007.

“Nuclear receptors, Bile Acid Transporters, and Liver Pathophysiology-Using gene expression, clinical chemistry and histopathology data to explore potential mechanisms of liver pathophysiology,” presented at National Institute of Environmental Health Sciences, RTP, NC, July, 2006.

“Toxicogenomics Studies at the National Center of Toxicogenomics-Allyl Alcohol Case Study,” presented at Integrated Laboratory Systems, Incorporated, RTP, NC, February, 2005.

“Allyl Alcohol Studies-A Work in Progress,” presented at Glaxo Smith-Kline, RTP, NC, November, 2004.

Publications (peer reviewed) Dunnick, JK, Shockley, KR, Morgan, DL, Travlos, GS, **Gerrish, K**, Ton, TT, Wilson, R, Brar, SS, Brix, AE, Waidyanatha, S, Mutlu, E, Pandiri, AKR Hepatic Transcriptomic Patterns in the Neonatal Rat After Pentabromodiphenyl Ether Exposure *Toxicol Pathol* In Press

Yamashita, H, Hoenerhoff, MJ, Shockley, KR, Peddada, SD, **Gerrish, KE**, Sutton, D, Cummings, Wang, Y, CA, Foley, JF, Behl, M, Waidyanatha, S, Sills, RC, Pandiri, AR (2018) Reduced Disc Shedding and Phagocytosis of Photoreceptor Outer Segment Contributes to Kava Kava Extract-induced Retinal Degeneration in F344/N Rats *Toxicol Pathol* 2018 46:564-573

Dunnick, JK, Shockley, KR, Pandiri, AR, Kissling, GE, **Gerrish, KE**, Ton, TV, Wilson, RE, Brar, SS, Brix, AE, Waidyanatha, S, Mutlu, E, Morgan, DL (2018) PBDE-47 and PBDE mixture (DE-71) toxicities and liver transcriptomic changes at PND 22 after in utero/postnatal exposure in the rat *Arch Toxicol* 92(11):3415-3433

Li Y, Hamilton, KJ, Wang, T, Coons, LA, Jefferson, WN, Li, R, Wang, Y, Grimm, SA, Ramsey, JT, Liu, L, **Gerrish, KE**, Williams, CJ, Wade, PA, Korach, KS (2018) DNA methylation and transcriptome aberrations mediated by ER α in mouse seminal vesicles following developmental DES exposure *Proc Natl Acad Sci* 115(18):E4189–E4198

Dunnick, J.K., Morgan, D.L., Elmore, S.A., **Gerrish, K.**, Pandiri, A., Ton, T.V., Shockley, K.R., and Merrick, B.A. (2017) Tetrabromobisphenol A activates the hepatic interferon pathway in rats *Toxicology Letters* 266:32-41

Dunnick, J.K., Shockley, K.R., Morgan, D.L., Brix, A., **Gerrish, K.**, Sanders, J.M., Ton, T.V., and Pandiri, A. (2017) Hepatic transcriptomic alterations and bench mark dose analysis for *N,N*-Dimethyl-*p*-toluidine (DMPT) and *p*-Toluidine after 5-day exposure in rats *Arch Toxicol* 91:1685-1696

Kang, HS, Kumar, D, Liao, G, Lichti-Kaiser, K, **Gerrish, K**, Liao, XH, Refetoff, S, Jothi, R, Jetten, AM GLIS3 is indispensable for TSH/TSHR-dependent thyroid hormone biosynthesis and follicular cell proliferation 2017 *J Clin Invest*. 127:4326-4337

Kang, H.S., Chen, L.Y., Lichti-Kaiser, K., Liao, G., **Gerrish, K.**, Bortner, C.D., Yao, H.H., Eddy, E.M., Jetten, A.M. (2016) Transcription Factor GLIS3: a New

and Critical Regulator of Postnatal Stages of Mouse Spermatogenesis *Stem Cells* 34:2772-2783

Ferruccio, B., Tiago, M., Fannin, R.D., Liu, L., **Gerrish, K.**, Maria-Engler, S.S., de Carmago, J.L.V., Paules, R.S., and de Moraes Barros, S.B. (2017) Molecular effects of 1-naphthyl-methylcarbamate and solar radiation exposures on human melanocytes *Toxicology in Vitro* 38:67-76

Ciencewicki, J., Verhein, K., **Gerrish, K.E.**, McCaw, Z, Li, J., Bushel, P., and Kleeberger, S. (2016) Effects of mannose-binding lectin on pulmonary gene expression and innate immune inflammatory response to ozone *Am J Physiol Lung Cell Mol Physiol* 311:L280-L291

Dunnick, J.K., Merrick, B.A., Brix, A., Morgan, D.L., **Gerrish, K.**, Flake, G., Foley, J., and Shockley, K. R. (2016) Molecular changes in the nasal cavity after N,N-Dimethyl-p-toluidine exposure *Toxicol. Pathol.* 44:835-47

Bushel, P.R., Fannin, R.D., **Gerrish, K.**, Watkins, P.B., Paules, R.S. (2017) Blood Gene Expression Serves as a Surrogate for Early Indication of an Acetaminophen Overdose *Pharmacogenomics J.* 17:230-236

Fannin, R.D., **Gerrish, K.**, Sieber, S.O., Bushel, P.R., Watkins, P.B., and Paules, R.S., (2016) Blood transcript immune signatures distinguish a subset of people with elevated serum ALT from others given acetaminophen *Clin. Pharm. and Ther.* 99:432-441

Hayes, S.A., Pandiri, A.R., Ton, T.T., Hong HH. L., Clayton, N.P., Shockley, K.R., Peddada, S.D., **Gerrish, K.**, Wyde, M., Sills, R.C., and Hoenerhoff, M.J (2016) Renal Cell Carcinomas in Vinylidene Chloride Exposed Male B6C3F1 Mice Are Characterized by Oxidative Stress and TP53 Pathway Dysregulation *Toxicol. Pathol.* 44:71-87

Bhusari, S., Pandiri, A.R., Nagai, H., Wang, Y., Foley, J., Hong, H.L., Ton, T.V., DeVito, M., Shockley, K.R., Peddada, S.D., **Gerrish, K.E.**, Malarkey, D.E., Hooth, M.J., Sills, R.C., and Hoenerhoff, M.J. (2015) Genomic Profiling Reveals Unique Molecular Alterations in Hepatoblastomas and Adjacent Hepatocellular Carcinomas in B6C3F1 Mice *Toxicol. Pathol.* 43:1114-1126

Nakano, H., Moran, T.P., Nakano, K., **Gerrish, K.E.**, Bortner, C.D., and Cook, D.N. (2015) Complement Receptor C5aR1/CD88 and Dipeptidyl Peptidase-4/CD26 Define Distinct Hematopoietic Lineages of Dendritic Cells *J Immunol.* 194:3808-3819

Qiu, L.Q., Abey, S., Harris, S., Shah, R., **Gerrish, K.E.** and Blackshear, P.J (2015) Global Analysis of Posttranscriptional Gene Expression in Response to Sodium Arsenite *Environ. Health Perspect.* 123:324-330

Morgan, D.L., Merrick, B.A., **Gerrish, K.E.**, Stockton, P.S., Wang, Y., Foley, J.F., Gwinn, W.M., Kelly, F.L., Palmer, S.M., Ton, T.V., and Flake, G.P. (2015) Gene expression in obliterative bronchiolitis-like lesions in 2,3-pentanedione-exposed rats *PLoS One.* 24:e0118459

Blackshear, P.E., Pandiri, A.R., Nagai, H., Bhusari, S., Hong, H.H., Ton, T.V., Clayton, N.P., Wyde, M., Shockley, K.R., Peddada, S.D., **Gerrish, K.E.**, Sills, R.C., and Hoenerhoff M.J. (2015) Gene Expression of Mesothelioma in

Vinylidene Chloride-exposed F344/N Rats Reveal Immune Dysfunction, Tissue Damage, and Inflammation Pathways *Toxicol Pathol.* 43:171-185

Li, Y., Arao, Y., Hall, J.M., Burkett, S., Liu, L., **Gerrish, K.**, Cavailles, V., and Korach, K.S. (2014) Research Resource: STR DNA Profile and Gene Expression Comparisons of Human BG-1 Cells and a BG-1/MCF-7 Clonal Variant *Mol. Endocrinol.* 28:2072-2081

Ferruccio, B., Fannin, R., Liu, L., **Gerrish, K.**, Maria-Engler, S., Paules, R., and Berlanga, S (2014) Gene expression profiling of cultured human melanocytes exposed to carbaryl and solar radiation *Toxicology Letters* 229:S108-S109

Calhoun, K.C., Padilla-Banks, E., Jefferson, W.N., Liu, L., **Gerrish, K.E.**, Young, S.L., Wood, C.E., Hunt, P.A., Vandevoort, C.A., and Williams C.J. (2014) Bisphenol a exposure alters developmental gene expression in the fetal rhesus macaque uterus *PLoS One* 9:e85894

Blackshear, P.E., Pandiri, A.R., Ton, T.V., Clayton, N.P., Shockley, K.R., Peddada, S.D., **Gerrish, K.E.**, Sills, R.C., and Hoenerhoff, M.J. (2014) Spontaneous Mesotheliomas in F344/N Rats Are Characterized by Dysregulation of Cellular Growth and Immune Function Pathways *Toxicol Pathol.* 42:863-876

Kang, H.S., Liao, G., DeGraff, L.M., **Gerrish, K.**, Bortner, C.D., Garantzotis, S., and Jetten, A.M. (2013) CD44 Plays a Critical Role in Regulating Diet-Induced Adipose Inflammation, Hepatic Steatosis, and Insulin Resistance. *PLoS One* 8: e58417

Arana, M.E., Kerns, R.T., Wharey, L., **Gerrish, K.E.**, Bushel, P.R., and Kunkel T.A. (2012) Transcriptional responses to loss of RNase H2 in *Saccharomyces cerevisiae* *DNA Repair* 11:933-941

Wells, M.L., Huang, W., Li, L., **Gerrish, K.E.**, Fargo, D.C., Ozsolak, F., and Blackshear, P.J. Posttranscriptional regulation of cell-cell interaction protein-encoding transcripts by Zfs1p in *Schizosaccharomyces pombe* (2012) *Mol. Cell. Biol.* 32:4206-4214.

Vacchi-Suzzi, C., Bauer, Y., Berridge, B.R., Bongiovanni, S., **Gerrish, K.**, Hamadeh, H.K., Letzkus, M., Lyon, J., Moggs, J., Paules, R.S., Pognan, F., Staedtler, F., Vidgeon-Hart, M.P., Grenet, O., and Couttet, P. (2012) Perturbation of microRNAs in rat heart during chronic doxorubicin treatment *PLoS One.* 7:e40395

Pandiri, A.R., Sills, R.C., Ziglioli, V., Ton, T.V., Hong, H.H., Lahousse, S.A., **Gerrish, K.E.**, Auerbach, S.S., Shockley, K.R., Bushel, P.R., Peddada, S.D., and Hoenerhoff, M.J. (2012) Differential Transcriptomic Analysis of Spontaneous Lung Tumors in B6C3F1 Mice: Comparison to Human Non-Small Cell Lung Cancer *Toxicol. Pathol.* 40:1141-1159

Liao, J.Y., Thakur, S.A., Zalinger, Z.B., **Gerrish, K.E.**, and Imani, F. (2011) Inosine-containing RNA is a novel innate immune recognition element and reduces RSV infection *PLoS One* 6:e26463

Jefferson, W.N., Padilla-Banks, E., Phelps, J.Y., **Gerrish, K.E.**, and Williams, C.J. (2011) Permanent oviduct posteriorization after neonatal exposure to the phytoestrogen genistein *Environ. Health Perspec.* 119:1575-1582

Hoenerhoff, M.J., Pandiri, A.R., Lahousse, S.A., Hong, H.H., Ton, T.V., Masinde, T., Auerbach, S.S., **Gerrish, K.**, Bushel, P.R., Shockley, K.R., Peddada, S.D., and Sills, R.C. (2011) Global gene profiling of spontaneous hepatocellular carcinoma in B6C3F1 mice: similarities in the molecular landscape with human liver cancer *Toxicol.Pathol.* 39:678-699

Kang, H.S., Okamoto, K., Takeda, Y., Beak, J.Y., **Gerrish, K.**, Bortner, C.D., DeGraff, L.M., Wada, T., Xie, W., and Jetten, A.M. (2011) Transcriptional profiling reveals a role for RORalpha in regulating gene expression in obesity-associated inflammation and hepatic steatosis *Physiol. Genomics* 43:818-828

Huang, J., Shi, W., Zhang, J., Chou, J.W., Paules, R.S., **Gerrish, K.**, Li, J., Luo, J., Wolfinger, R.D., Bao, W., Chu, T.M., Nikolsky, Y., Nikolskaya, T., Dosymbekov, D., Tsyganova, M.O., Shi, L., Fan, X., Corton, J.C., Chen, M., Cheng, Y., Tong, W., Fang, H., and Bushel, P.R. (2010) Genomic indicators in the blood predict drug-induced liver injury. *Pharmacogenomics Journal* 10:267-277

Hewitt, S.C., Kissling, G.E., Fieselmann, K.E., Jayes, F.L., **Gerrish, K.E.**, and Korach, K.S. (2010) Biological and biochemical consequences of global deletion of exon 3 from the ER alpha gene *FASEB Journal* 24:4660-4667

Fannin, R.D., Russo, M., O'Connell, T.M., **Gerrish, K.**, Winnike, J.H., Macdonald, J., Newton, J., Malik, S., Sieber, S.O., Parker, J., Shah, R., Zhou, T., Watkins, P.B., Paules, R.S. (2010) Acetaminophen dosing of humans results in blood transcriptome and metabolome changes consistent with impaired oxidative phosphorylation. *Hepatology* 51:227-236

Kang, H.S., Kim, Y.S., ZeRuth, G., Beak, J.Y., **Gerrish K.**, Kilic, G., Sosa-Pineda, B., Jensen, J., Pierreux, C.E., Lemaigre, F.P., Foley, J., and Jetten, A.M. (2009) Transcription factor Glis3, a novel critical player in the regulation of pancreatic beta-cell development and insulin gene expression. *Mol. Cell Biol.* 29:6366-6379

Lobenhofer, E.K., Auman, J.T., Blackshear, P.E., Boorman, G.A., Bushel, P.R., Cunningham, M.L., Fostel, J.M., **Gerrish, K.**, Heinloth, A.N., Irwin, R.D., Malarkey, D.E., Merrick, B.A., Sieber, S.O., Tucker, C.J., Ward, S.M., Wilson, R.E., Hurban, P., Tennant, R.W., and Paules, R.S. (2008) Gene expression response in target organ and whole blood varies as a function of target organ injury phenotype. *Genome Biology* 9:R100

Auman, J.T., Chou, J., **Gerrish, K.**, Huang, Q., Jayadev, S., Blanchard, K., and Paules, R.S. (2007) Identification of Genes Implicated in Methapyrilene-Induced Hepatotoxicity by Comparing Differential Gene Expression in Target and Non-Target Tissue. *Environ. Health Perspect.* 115:572-578

Raum, J.C., **Gerrish, K.**, Artner, I., Henderson, E., Guo, M., Sussel, L., Schisler, J.C., Newgard, C.B., and Stein, R. (2006) FoxA2, Nkx2.2, and PDX-1 Regulate Islet β -Cell-Specific *mafA* Expression through Conserved Sequences Located between Base Pairs -8118 and -7750 Upstream from the Transcription Start Site *Mol. Cell Biol.* 26:5735-5743

Van Velkinburgh, J.C., Samaras, S.E., **Gerrish, K.**, Artner, I. and Stein, R. (2005) Interactions between Areas I and II Direct *pdx-1* Expression Specifically to islet cell types of the mature and developing pancreas *J. Biol. Chem.* 280:38438-38444

Gerrish, K., Van Velkinburgh, J.C., and Stein, R. (2004) Pancreatic β cell-specific transcription of the *pdx-1* gene. Cell specific regulation by conserved enhancer regions Mol. Endo.18:533-548

Samaras, S., **Gerrish, K.**, Guo, M., Henderson, E., and Stein, R. (2002) PAX6 appears to activate pancreatic β -cell specific transcriptional regulation of the *pdx-1* gene Mol. Cell. Biol. 22:4702-4713

Gerrish, K., Cissell, M.A., and Stein, R. (2001) The role of Hepatic Nuclear Factor 1 α and PDX-1 in transcriptional regulation of the *pdx-1* gene J. Biol. Chem. 276:47775-47784

Gerrish, K., Gannon, M., Shih, D., Henderson, E., Stoffel, M., Wright, C.V.E., and Stein, R. (2000). Pancreatic β cell-specific transcription of the *pdx-1* gene. The role of conserved upstream control regions and hepatic nuclear factor 3 \square sites J. Biol. Chem. 275: 3485-3492

Gensler, H.L., Simpson, J., **Gerrish, K.**, and Gilmore, J. (1995) Reduction of interferon-gamma as a critical mechanism by which ultraviolet radiation prevents tumor rejection Photochem. and Photobiol. 62: 862-868

Consroe, P., Egen, N.B., **Gerrish, K.**, Smith, D.C., Sidki, A., and Landon, J.T. (1995). Comparison of a new ovine antigen binding fragment (Fab) antivenin for United States Crotalidae with the commercial antivenin for protection against venom-induced lethality in mice Am. J. of Trop. Med. and Hyg. 53: 507-510

Gensler, H.L., **Gerrish, K.**, Williams, T., Rao, G., and Kittleson, J. (1994). Prevention of photocarcinogenesis and UV-induced immunosuppression in mice by topical tannic acid Nutrition and Cancer 22: 121-130

Gerrish, K.E. and Gensler, H. L. (1993). Prevention of photocarcinogenesis by dietary vitamin E Nutrition and Cancer 19: 125-133

Gerrish, K.E., Fuller, D.J., Gerner, E.W., and Gensler, H.L. (1993). Inhibition of DFMO-induced audiogenic seizures by chlordiazepoxide. Life Sciences 52: 1101-1108

Consroe, P., **Gerrish, K.E.**, Egen, N. and Russell, F.E. (1992). Intravenous dose-lethality study of American pit viper venoms in mice using standardized methods J. of Wild. Med. 3: 48-53

Davis, D., Branch, K., Egen, N.B., Russell, F.E., **Gerrish, K.E.**, and Auerbach, P.S. (1992). The effect of an electrical current on snake venom toxicity J. of Wild. Med. 3, 48-53

Gerrish, K.E., Putnam, C.W., and Laird, H.E. (1991) Prolactin-stimulated mitogenesis in the Nb2 rat lymphoma cell: Lack of protoporphyrin IX effects Life Sciences 47, 1647-1653

Laird, H.E., **Gerrish, K.E.**, Duerson, K.C., Putnam, C.W., and Russell, D.H. (1989). Peripheral benzodiazepine binding in Nb2 node lymphoma cells: Effects on prolactin-stimulated proliferation and ornithine decarboxylase activity Eur. J. of Pharmacol. 17, 25-35

Publications (invited)

Gerrish, K. and Malarkey, D.E. (2007) "Genomic profiling of Liver Injury. Review for "Hepatotoxicity: From Genomics to *in vitro* and *in vivo* Models." Editor S.C. Sahu. 465-488.

Gerrish, K., Samaras, S., Cissell, M., Wright, C.V.E., and Stein, R. (2000). "Regulation of *pdx-1* gene expression." Review for "Molecular Basis of Endocrine Pancreas Development and Function." Editors M.A. Hussain, C.P. Miller and J.F. Habener, Pages 251-263.

Gannon, M., **Gerrish, K.**, and Wright, C.V.E. (2000). "Role of PDX-1 in Pancreatic Development." Review for "Frontiers in Diabetes: Molecular Pathogenesis of MODYs." Editors F.M. Matschinsky and M.A. Magnuson, Pages 166-180.

Organizing Roles in Scientific Meetings

November 6-8, 2019 Organizing Committee, Mid-Atlantic Directors and Staff of Scientific Cores and Northeast Regional Life Science Core Directors Meeting, Philadelphia, Pennsylvania

May 2019 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

September 24-25, 2018, Organizing Committee Member, NIEHS Inflammation Faculty Workshop, Circulating Cell-Free DNA: Applications in the Clinical and Toxicology Setting Meeting, Durham, North Carolina

June 18-20, 2018, Organizing Committee Member, 6th Annual Mid-Atlantic Directors and Staff of Scientific Cores Meeting, Baltimore, Maryland

May 2018 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

June 19-21, 2017 Organizing Committee Member, 5th Annual Mid-Atlantic Directors and Staff of Scientific Cores Meeting, Morgantown, West Virginia

May 2017 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

May 2016 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

May 2015 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

May 2014 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

September 2013-June 2014 Seminar Series Organizer, Laboratory of Toxicology and Pharmacology, NIEHS, RTP, NC

September 2012 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

September 2012-June 2013 Seminar Series Organizer, Laboratory of Toxicology and Pharmacology, NIEHS, RTP, NC

October 2011 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

September 2011-June 2012 Seminar Series Organizer, Laboratory of Toxicology and Pharmacology, NIEHS, RTP, NC

September 2010-June 2011 Seminar Series Organizer, Laboratory of Toxicology and Pharmacology, NIEHS, RTP, NC

September 2009 Chairperson, NIEHS Genomics Day, NIEHS, RTP, NC

September 2008-June 2009 Seminar Series Organizer, Laboratory of Molecular Toxicology and Pharmacology, NIEHS, RTP, NC

Professional Societies

Association of Biomolecular Resource Facilities
Mid-Atlantic Directors and Staff of Scientific Cores
National Research Mentoring Network

Professional Service and Committees

December 1, 2015 to Present Library User Group Chair
January 2015 to December 1, 2015, Library User Group Member
August 2014 to Present, Instrument Service Agreement Committee Member
November 2013 to Present, NIEHS Exposome Faculty Member
November 2013 to Present, NIEHS Inflammation Faculty Member
July 2013 to Present, NIEHS Epigenomics Core Governance Committee Member
May 2013 to Present, Nanostring Proposal Review Committee Member
August 2012 to Present, Scholars Connect Advisory Committee Member
November 2009 to Present, HESI Genomics Technical Committee Member
December 2007 to Present, Microarray Proposal Review Committee Member
November 2007 to Present, NTP Toxicogenomics Faculty Member
January 2014 to 2017, Assembly of Scientists Secretary
2012-2013 NIEHS Scholars Connect Program Mentor
2011-2012 NIEHS Pulse Action Planning Committee Member
Summer 2008 NIEHS Summers of Discovery program Mentor
Summer 2007 NIEHS Summers of Discovery program Mentor

Computer Skills

Operating Systems: Unix, Linux, DOS, Windows, and Macintosh
Select Software: Agilent Feature Extraction, Genespring, Rosetta Resolver, GenMAPP, Ingenuity Pathways Analysis, Adobe Photoshop
Microsoft Office, Omicsoft Array Studio, Partek Genomics Suite

Equipment Experience

Applied Biosystems 7500 and 7900 HT Sequence Detection System, Affymetrix fluidics stations, Affymetrix microarray scanner, Agilent microarray scanner, Agilent 2100 Bioanalyzer, MJ Research Tetrad PCR machine, Beckman Coulter spectrophotometer, Beckman Coulter Biomek FX robot liquid handling robot, NanoDrop N-1000 spectrophotometer, agarose and acrylamide gel electrophoresis, gas and liquid chromatography, scintillation counter, high speed centrifuges, Nanostring nCounter System

Technical Experience

1 and 2-color fluorescence microarrays, Real Time PCR, Gene Expression Profiling, PCR, chromatin immunoprecipitation, molecular biology, nucleic acid isolation, fluorescence activated cell sorting, electrophoretic mobility shift assays, tissue culture, animal surgery, cloning, vector construction, protein purification and analysis, receptor binding assays, mouse tail genotyping