

Curriculum Vitae

NAME: Bruce Alexander Merrick

ADDRESS: National Institute of Environmental Health Sciences
Division of the National Toxicology Program
Biomolecular Screening Branch
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Research Triangle Park, NC 27709

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PLACE OF BIRTH: USA, U.S. Citizen

EDUCATION: Ph.D. Toxicology, 1984
University of Nebraska Medical Center, Omaha, NE
M.S. Pharmacology, 1980
University of Nebraska Medical Center, Omaha, NE
B.S. Pharmacy, 1978
College of Pharmacy, University of New Mexico,
Albuquerque, NM
B.S. Biology, 1974
University of California, Davis, CA

EXPERIENCE:

National Institute of Environmental Health Sciences
Division of National Toxicology Program
P.O. Box 12233, Mail Drop: K2-017
Research Triangle Park, NC 27709

2011 – present: Group Leader; Molecular Toxicology and Informatics Group, National Toxicology Program, NIEHS

2010 – 2011: Molecular Toxicologist, Biomolecular Screening Branch, National Toxicology Program, NIEHS

National Toxicology Program and Division of Intramural Research
P.O. Box 12233
Research Triangle Park, NC 27709

2006 – 2010: Staff Scientist, Laboratory of Respiratory Biology, NIEHS

2000 – 2006: Proteomics Group Leader, National Center for Toxicogenomics program, NTP/NIEHS

1992 – 1999: Staff Scientist in Regulatory Proteins Group, NIEHS;

1989 – 1992: Staff Scientist, Carcinogenesis Mechanisms Group, NTP/NIEHS

United States Environmental Protection Agency
Health Effects Research Laboratory
26 W. Martin Luther King Drive
Cincinnati, OH 45268

1987 – 1988: Section Chief, Hepatotoxicology Section, Supervisory Pharmacologist

1985 – 1987: Group Leader, In Vitro Toxicology Group

Oak Ridge National Laboratory
Biology Division
P.O. Box 2008
Oak Ridge, TN 37831

1984 – 1985; NCI Training Grant Fellow at Biology Division, Oak Ridge National Laboratory, Oak Ridge, TN. Chemical carcinogenesis of PAH. James K. Selkirk, PhD, Principal Investigator

PATENTS:

U.S. Patent No. 5534121 Awarded July 9, 1996
Title: Preparative Two Dimensional Gel Electrophoresis System
Inventor: B. Alex Merrick, Ph.D.

PRODUCT LICENSE:

Anti-Grp75 antibodies and standards; licensed to Oxford Biomedical Research, Inc., PO Box 522, Oxford, MI 48371, Catalog 6, 36.

Baculovirus Expression System, rH-p53 to Orbigen, Inc. San Diego, CA.

PROFESSIONAL LICENSE:

Registered Pharmacist, State of Nebraska and State of North Carolina

PROJECT OFFICER:

U.S. Environmental Protection Agency, 1985-1988
Project Officer: "Chemical Interactions in Toxicology"; Cooperative Agreements with University of Arizona and University of Mississippi

NIEHS, National Center for Toxicogenomics; 2002-2005
Project Officer: Contract No. NIEHS N01-ES25494
"Proteomics Resource for the National Center for Toxicogenomics"

NIEHS, Division of the National Toxicology Program; 2011-present
Project Officer: Contract No. HHSN27310
NextGen Sequencing Station Support Contract for NTP

TEACHING EXPERIENCE:

2001 to present: NC State University Toxicology Program; Biochemical Toxicology lecture series.
1978 to 1980: Teaching Assistant: Pharmaceutics I, II; Pharmacy and Dispensing and Compounding. UNMC College of Pharmacy

ADJUNCT FACULTY POSITION:

Associate Professor at North Carolina State University
Department of Environmental and Molecular Toxicology
Adjunct Faculty Associate Professor Appointment: 2001 to present

MENTORING:

Post-doctoral Fellows:

Jui-Hua Hsieh, Ph.D. University North Carolina, Chapel Hill, Chemical Biology and Medicinal Chemistry
2011-present

Charlesene McNeil-Blue, Ph.D., Clark Atlanta University, Atlanta, GA, Dept. of Biology
2003-2006

Project Title: Role of p53 in apoptosis in Parkinson's disease and neurodegenerative disorders

Barbara A. Wetmore, Ph.D.
2000-2005

NC State University, Raleigh, NC Dept of Environmental and Molecular Toxicology
Project Title: P53 phosphorylation in Growth Arrest and Apoptosis
Employed as Senior Scientist at Hamner Research Institute, RTP, NC

PhD:

2003-2007; PhD Awarded, April 2007
Christopher Brynczka, NC State University, Raleigh, NC Dept. of Environmental and Molecular Toxicology
Project Title: p53 transcriptional regulation in apoptosis of neurodegenerative disease
Employed as Senior Toxicologist at Gradient Corporation

STEP Undergraduate Student Trainees:

Kevin Gao, 2014
Justin S. Chang, 2013
Lora Long Witcher, 1990-1993
Miki Pence-Pawlowski 1993-1995
Vicky R. Walker 1995-1996
Jennifer Hartis 1999-2001

Ph.D. Committee Member:

NC State University; Department of Environmental and Molecular Toxicology
Minsub Shim; 2003, Ph.D. Degree
Elizabeth McKenzie, Ph.D. Committee; 2002 to 2005
Sherry Grissom, M.S. Committee; 2004
Jennifer H. Madenspacher, M.S. Committee; 2005

PROFESSIONAL SOCIETIES:

Society of Toxicology, Full Member, 1984 to present
Stem Cell Specialty Section, 2011 to present
American Association of Cancer Research, Full Member 1990 to 2007
Society for Neuroscience, 2002 to 2007

EDITORIAL BOARD:

Journal of Applied Pharmacology 2012 to present
Environmental Health Perspectives 2004 to current
Mutation Research Reviews, 2004 to present
Briefings in Functional Genomics and Proteomics 2003 to 2009
BioMolecular Engineering 2004 to 2006
Reviews in Mutation Research 2001 to current
Fundamental and Applied Toxicology 1990 to 1996

AD HOC JOURNAL REVIEWER:

Biochemical Pharmacology
Biochimie
BioTechniques
Cancer Research
Electrophoresis
FASEB Journal
In Vitro Toxicology
Journal of Pharmacology and Experimental Therapeutics
Journal of Proteomics Research
Molecular Pharmacology
Oncogene

Proteomics
Toxicology In Vitro
Toxicological Sciences
Toxicology and Applied Pharmacology

INVITED SPEAKER:

American Public Health Association Annual Meeting; Session 4122: Why Neighborhood Matters in Assessing Environmental Health Risks.

Seminar Title: "NIEHS Mouse Methylome Project: What We Can Learn from the Epigenomic Landscape".

Organizing Chair: Kenneth Olden, Ph.D.

November 18, 2014; New Orleans, LA

Toxicogenomics Workshop: the emergence of a new research and regulatory paradigm.

Seminar Title: "Intersection of Toxicogenomics and High Throughput Screening in the Tox21 Program: An NIEHS Perspective"

Organizing Chair: Victor Pelaez, Ph.D.

September 15-16, 2014; Curitiba, Brazil

Ohio Valley Regional SOT Chapter Meeting, Invited Keynote Speaker

Seminar Title: "High throughput screening for chemical toxicity assessment"

Organizing Chair: Christopher States, PhD

September 23, 2013; Louisville, KY

Experimental Biology 2008 Meeting, ASPET/FASEB sponsor; Invited Speaker to Symposium on Inflammation: Early Disease Marker, Drug Response Modifier, Therapeutic Target

Chair(s): Donald Miller/Daniel Sitar

Seminar Title: "Omics-based discovery of inflammation markers as diagnostic tools in drug discovery and disease"

April 5-9, 2008; San Diego CA

HUPO 2007, 6th International Congress; Invited Speaker and Session Chair of Symposium 19: Nutri- and Toxicoproteomics

Seminar Title: "Toxicoproteomics and target discovery tools in tissue injury and inflammation"

Seoul, South Korea; October 6-10, 2007

Collegium Ramazzini: 3rd International Scientific Conference: Framing the Future in Light of the Past: Living in a Chemical World

Seminar Title: "Gene and Protein Protein Profiling in Experimental Liver Injury and Inflammation"

September 18-21, 2005, Bologna, Italy

9th ICEM –International Conference on Environmental Mutagens - Satellite Meeting on Toxicogenomics

Seminar Title: "Toxicoproteomic Biomarkers and Signatures of Hepatic Injury"

August 30-September 2, 2005, Kauai, Hawaii

West Virginia University Systems Biology Initiative and CIIT Centers for Health Research:

"2005 Conference on: The Application of Systems Biology Methodologies to Environmental Research"

Seminar Title: "Effect of TCDD on the rat microsomal proteome"

Seminar Title: "Building toxicogenomics knowledge with the chemical effect in biological systems (CEBS) knowledgebase"

August 1-3, 2005; West Virginia University

American Association for the Study of Liver Diseases (AASLD) 2005 Basic Research Single Topic Conference: "Exploring the Functional Genomics and Proteomics of Liver in Health and Diseases"

Seminar Title: "Proteomic Profiling of Serum and Liver in Experimental Animals and Humans After Acetaminophen Exposure"

June 3-5, 2005; Airlie Center, Warrenton, VA

SOT 2005 Annual Meeting

Minisymposium: "Proteomics and Antibody Microarrays: Applications in Toxicology". Seminar

Title: "Proteomic analysis of serum proteins during acute acetaminophen toxicity in rats reveals acute phase and antioxidant response"

March 6-10, 2005; New Orleans, LA

University of Florida, Gainesville

Invited Seminar sponsored by the Genetics Institute and Interdisciplinary Toxicology Program. Host: Nancy Denslow

Seminar Title: "Toxicoproteomic profiling of serum proteins in animals and humans after acetaminophen exposure"

February 1, 2005

Society for Risk Analysis 2004 Annual Meeting

Symposium: Recent Developments in Risk Assessment Science and Technology, Chaired by Susan Poulter, Risk Science and Law Specialty Group

Seminar Title: "The impact of toxicogenomics on public policy, risk assessment and regulation"

December 5-8, 2004; Palm Springs, CA

Merck Distinguished Research Seminar

Merck Research Center,

Host: George N. Nikov, Ph.D.

Seminar Title: p53 in growth regulation and apoptosis.

October 12-13, 2004; San Diego, CA

"Toxicogenomics International Forum 2004" sponsored by Center for Biological Safety and Research National Institute of Health Science, Japan

Seminar Title: "Toxicoproteomics of Liver Injury and Inflammation"

October 11-13, 2004; Kyoto, Japan

SELDI User's Group Meeting at Duke University

Seminar Title: "Use of SELDI Analysis in Classifying Acute Inflammation in Experimental Animals as a Prelude to Clinical Studies"

October 7, 2004, Duke University, Durham, NC

ISSX 2004 Symposium, Organizer and Speaker

Symposium Title: "High Throughput Proteomics in Xenobiotic Toxicity"

Seminar Title: "Toxicoproteomic analysis of hepatotoxicants in necrosis and inflammation"

August 28-Sept 2, 2004; Vancouver, BC, Canada

10th International Congress of Toxicology – ICTX 2004

Session S15: "Toxicogenomics and Proteomics of the Liver" Session Co-Chairman and Speaker. Co-Chair: Jos Kleinjans, The Netherlands National Toxicogenomics Centre (NTC)

Seminar Title: "Gene and protein expression profiling of rat liver and subcellular fractions after subacute exposure to metabolic inducers, phenobarbital, oxazepam and Wyeth 14,643"

July 11-15, 2004; Tampere, Finland

University of Arizona, Department of Pharmacology and Toxicology and Chemical/Chromatin Interactions Research Core. Hosts: TJ Monks and D Rompagnolo

Seminar Title: "Toxicoproteomic Studies in Hepatic Injury and Inflammation"

April 27, 2004; Tucson, AZ

U.S. – Japan Cooperative Medical Science Program:

Environmental Genomics and Carcinogenesis Panel
Session I. Gene Expression, Proteins, Chemicals and Cancer
Seminar Title: "Toxicoproteomic Analysis of Liver and Serum during Hepatotoxicity"
January 22 – January 24, 2004; Oahu, Hawaii

American Industrial Hygiene Association, Annual Meeting
Roundtable: "New Venues for industrial hygienists: Using Biological Monitoring to Uncover the Health Impact of Environmental Toxicants"
Seminar Title: "Toxicoproteomic Analysis of Liver Toxicity after Chemical Exposure"
May 11, 2004; Atlanta, GA

Pacific Northwest National Laboratory (PNNL)
Seminar Title: "Toxicoproteomics of liver and serum in hepatotoxicity"
February 19-21, 2004; Richland, WA

"IPCS Workshop on Toxicogenomics and the Risk Assessment of Chemicals For the Protection of Human Health" sponsored by WHO-IPCS (World Health Organization - International Programme on Chemical Safety
University of Berlin School of Public Health
Seminar Title: "The National Center for Toxicogenomics: Program Update and Development of the CEBS Database for Toxicogenomics Research"
November 17-19, 2003; Berlin, Germany

Federazione Italiana Scienze della Vita Meeting, Invited speaker to Minisymposium "Gene-environment interactions"
Seminar Title: "Toxicogenomics of Hepatotoxicity: Gene and Protein Expression Studies"
October 10-13, 2003, Rimini, Italy

Toxicology of Natural Products Symposium, sponsored by US FDA
Seminar Title: "Toxicoproteomics of Hepatotoxicants"
September, 8-9, 2003; NIH Bethesda, MD

Gordon Conference: "Toxicogenomics" Bates College, ME,
Seminar Title: "Proteomic Analysis of Hepatotoxic Agents: Investigation of Subcellular and Serum Proteomes"
June 22-27, 2003; Lewiston, ME

Human Proteome Organization (HUPO) Workshop on the Human Liver Proteome
Seminar Title: "Standards and Technologies in Proteomics"
July 17-18, 2003; NIH Bethesda, MD

Society of Toxicology Symposium: Invited speaker
Seminar Title: "Conducting Parallel Genomics and Proteomics Studies: Comparative Responses in Gene Expression." at the 42nd Annual Meeting of the
March 9-13, 2003; SOT, Nashville, TN

Society of Toxicology Workshop: Organizer
Course Title: "Toxicity Profiling of Genes and Proteins by Toxicologists: Advanced Topic in Toxicogenomics" PM12 Advanced.
March 17-21, 2002 Nashville, TN at SOT Annual meeting

Human Proteome Organization (HUPO) Workshop on the Human Liver Proteome
Seminar Title: "Liver Response to Environmental Toxicants Analyzed by Proteomics at NIEHS"
October 21-24, 2002, Beijing, China

UNC Chapel Hill Department of Biochemistry Seminar Series:

Seminar Title: "Proteomics as a Tool for Discovery: Metabolic Enzyme Inducers and Subcellular Localization"

Host: C Borchers

October 9, 2001, UNC Chapel Hill, NC

American Association Advancement of Science, 2001 Meeting

Symposium: Approaches in Functional Genomics: Rewards and Challenges. Organizer: Francoise Seillier-Moiseiwitsch, UNC, Chapel Hill, NC

Seminar Title: Proteomic Analysis as a Tool for Pathway Discovery.

March 15-20, 2001; San Francisco, CA

International Society for Study of Xenobiotics Annual Meeting, ISSX 2000; Symposium: Pharmacodynamics and Biomarkers. Organizer: JM Collins, FDA; Rockville, MD

Seminar Title: "National Center for Toxicogenomics: A New NIEHS Initiative for Toxicology and Biomarker Research"

October 24-28, 2000; Indianapolis, IN

U.S. EPA, NHEERL, Research Triangle Park, NC

Seminar Title: "Proteomics at NIEHS: Hepatic Effects of TCDD as a Pilot Study"

Host: K. Dreher, Experimental Toxicology Division

September 28, 2000; Research Triangle Park, NC

U.S. EPA, NHEERL, Research Triangle Park, NC

Seminar Title: "Proteomics in a Gene Expression Center: Applications to Environmental Toxicology"

Host: D. Dix, Reproductive Toxicology Division

February 24, 2000, Research Triangle Park, NC

Professional Program Activities:

SBIR – NTP Liaison to DERT – SBIR on Archived Tissues, 2013

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel. November 13, 2012

Reviewer: NIH Microphysiological Systems Grant Review Panel ZRG1 BST-N (50), April 19-20, 2012; Bethesda, Maryland

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel. November 2, 2011

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel. November 3, 2010

Reviewer: Proteomics Program in Molecular Profiling; Pfizer Pharmaceutical Company, Ann Arbor, MI; September 24-25, 2006.

Reviewer for: NIH National Cancer Institute Grant Study Section: NCI RFA-CA-07-012 "Clinical Proteomic Technology Assessment for Cancer." Silver Springs, MD; July 19-20, 2006

Reviewer for: Pacific Northwest National Laboratories Proposals

PNNL LDRD Proposal Title: "Signatures of Oxidative Stress Associated with Inhaled Particulate Matter" Contact: Flor Cuevas, PNNL, Richmond, OR; September 2005.

Reviewer for: Genome Canada Competition III; External Reviewer of Large Scale Project

Project Title: "Proteomics of Hepatitis C Models" by J Bergeron and M Tremblay; JoAnn J. Crichlow April 15, 2005

Reviewer for: The Dutch Technology STW Foundation; the Netherlands Organisation for Scientific Research, NWO, and the Dutch Ministry of Economic Affairs
Project Title: "WPB.6718: Cell-type specific proteomics; a general strategy for high throughput protein discovery" by Dr. A.R. van der Krol; Wageningen, Netherlands;
November 2004

Reviewer for: Pennsylvania Department of Health Performance Reviews of Genomics and Proteomics Initiatives
April 23, 2004

"The Human Proteome Roadmap" HUPO Workshop; participant
Sponsored by NIH, FDA and HUPO
April 22, 2004; Bethesda, MD

USEPA Science Advisory Board
"Consultation on Computational Toxicology Framework (CTF)"
US EPA; Wash DC; Consultant
Washington, DC; September 5, 2003

Reviewer for: European Science Foundation: Exploratory Workshop
Workshop Title: "Microarray and Proteomic application to the Ecotoxicology" Contact: Jane Swift; Life and Environmental Sciences Unit, ESF 1 quai Lezoy-Marnesia 67080 Strasbourg cedex France;
September 2003

Reviewer for: Pacific Northwest National Laboratories Proposals
PNNL LDRD Proposal Title: "Array Technologies for Quantification of Proteins" by R Zangar,
Contact: Marla J. Sequin, PNNL, Richmond, OR; August 2003

HUPO, Human Proteome Organization
Human Liver Proteome Project (HLPP) Workshop; Plan and participate in international Liver Proteomics studies and initiatives
Workshop Meeting at NIH, Bethesda, MD; July 17-18, 2003

ILSI-HESI (International Life Sciences Institute – Health Environmental Science Institute)
Member of Biomarkers and Proteomics Leadership Subcommittee; Participate in planning for national cooperative studies on Biomarkers and Proteomics in Toxicology
Washington, DC; 2001 to 2003

HUPO, Human Proteome Organization
Cell Models Subcommittee: Human Liver Proteome Leadership Group. Plan and participate in international Liver Proteomics studies and initiatives
Seminar: "Toxicogenomic studies if liver toxicants"
Workshop Meeting in Beijing, China; November 21-24, 2002

HUPO, Human Proteome Organization
Plasma Proteome Group; Plan and participate in international studies and initiatives on the Plasma Proteome.
Workshop Meeting, Ann Arbor, MI; September 5-6, 2002

SOT 2002, Annual Meeting Course Organizer for SOT Continuing Education Series: CE Course
Title: PM#12: "Toxicity Profiling of Genes and Proteins by Toxicologists: Advanced Topics in Toxicogenomics"
Nashville, TN; March 17-21, 2002

NIEHS COMMITTEES:

Information Technology Management Committee (ITMC), 2013-2016
DNTP Information Technology Resources Advisory Committee (ITRAC), 2013-2016
Committee on Promotion Board II, 2012-2015
Science Day Organizing Committee, 2011-2014
EIR Invention Review Panel: 2010-2015
Pulse Survey Point of Contact for BSB Branch and NTP, 2011-2012
NTP Toxicogenomics Faculty Chair 2011-2014
BSB Branch Journal Club Chair 2011-2014
Assembly of Scientists: Elected Board Member, 2003-2005
Animal Care and Use Committee Member; 1999-present
MOATS: Media and Glassware Advisory Committee, Head 1996-2000, Led committee to develop MOATS automated ordering system for media and glassware
NIEHS Property Committee; 1999-2000; helped develop PMIS automated property management system
Chairman, Property Disposal Committee, 2004 - 2006
NIEHS Focus Group for Health and Radiation Safety; 1995

PUBLICATIONS:

93. Morgan, D., **Merrick, B.A.**, Gerrish, K.E., Stockton, P.S., Foley, J.F., Gwinn, W.M., Kelly, F.F., Palmer, S.M., Ton, T.-V. T., Hoenerhoff, J.J. and Flake, G.P. Gene expression of obliterative bronchiolitis-like lesions in 2,3-pentanedione-exposed rats. Submitted to PLOS ONE, 2014.
92. Auerbach, S.S., Phadke D., Mav, D., Gao, Y., Xie, B., Shin J.H., Shah, R.R., **Merrick, B.A.**, Tice, R.R. RNA-Seq-based Toxicogenomic Assessment of Fresh Frozen and Formalin Fixed Tissues Yields Similar Mechanistic Insights. J Appl Toxicol, 2014 (In Press).
91. Teng CT, Beames B, **Alex Merrick B**, Martin N, Romeo C and Jetten AM. Development of a stable cell line with an intact PGC1a/ERRa axis for screening environmental chemicals. Biochem. Biophys. Res. Comm. 444:177-181, 2014
90. McPherson, CA., **Merrick, B.A.** and Harry, G.J. Enhanced evaluation of *in vivo* molecular markers for pro-inflammatory cytokine M1 stage of trimethyltin-induced hippocampal injury. Neurotoxicity Research – Neutotox. Res, 25:45-56, 2014
89. Madenspacher, J.H., Azzam, K.M., Gowdy, K.M., Malcolm, K.C., Nick, J.A., Dixon, D., Aloor, J.J., Draper, D.W., Guardiola, J.J., Shatz, M., Menendez, D., Lowe, J., Lu, J, Bushel, P., Li, L, **Merrick, B.A.**, Resnick, M.A. and Fessler, M.B. p53 integrates host defense and cell fate during bacterial pneumonia. J. Exptl Med 210(5):891-904, 2013.
88. Teng, C., Goodwin, B., Shockley, K., Xia, M., Huang, R., Norris, J., **Merrick, B.A.**, Jetten, A.M., Austin, C.P. and Tice, R.R. Bisphenol A affects androgen receptor function via multiple mechanisms. Chem Biol Interact 203:556-564, 2013.
87. **Merrick, B.A.**, Phadke D.P., Auerbach, S.S., Mav, D., Stiegelmeier, S.M., Shah, R.R. and Tice, R.R. RNASeq profiling reveals novel hepatic gene expression pattern in aflatoxin B1 treated rats. PLOS ONE: 8(4): e61768, 2013.
86. **Merrick, B.A.**, Auerbach, S.S., Stockton, P.S., Foley, J.F., Malarkey, D.E., Sills, R.C., Irwin, R.D. and Tice, R.R. Testing an aflatoxin B1 gene signature in rat archival tissues. Chem Res Toxicol 25:1132-1144, 2012.
85. **Merrick, B.A.** London, R.E., Bushel, P.R., Grissom, S.F. and Paules, R.S. Platforms for biomarker analysis using high-throughput approaches in genomics, transcriptomics, proteomics, metabolomics and bioinformatics. IARC Sci Publ, 163:121-142, 2011.
84. **Merrick, B.A.**, Dhungana, S., Williams, J.G., Aloor, J.J., Peddada, S., Tomer, K.B. and Fessler M.B. Proteomic profiling of S-acylated macrophage proteins identifies a role for palmitoylation in mitochondrial targeting of phospholipid scramblase 3. Molec Cellular Proteomics, 2011 M110.00607-13.
83. Smoak, K.A., Aloor, J.J., Madenspacher, J.H., **Merrick, B.A.**, Collins, J. Hollingsworth, J., Zhu, X., Cavigliolo, G., Oda, M.N., Parks, J.S. and Fessler, M.B. Myeloid differentiation primary response protein 88 couples reverse cholesterol transport to inflammation. Cell Metabolism 11:493-502, 2010.
82. **Merrick, B.A.** and Witzmann, F.A. The role of toxicoproteomics in assessing organ specific toxicity. EXS (Experientia Supplementum) 99:367-400, 2009.

81. Dhungana, S., **Merrick, B.A.**, Tomer, K.B. and Fessler, M.B. Quantitative proteomic analysis of macrophage rafts reveals compartmentalized activation of the proteasome and of proteasome-mediated ERK activation in response to lipopolysaccharide. *Mol Cell Proteomics* 8:201-213, 2009.
80. **Merrick, B.A.** The plasma proteome, adductome and idiosyncratic toxicity in toxicoproteomics research. *Briefings in Functional Genomics and Proteomics* 7:35-49, 2008.
79. 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. Gene expression response in target organ and whole blood varies as a function of target organ injury phenotype. *Genome Biology* 9:R100, 2008.
78. Brynczka, C. and **Merrick, B.A.** The p53 transcriptional target gene *wnt7b* mediates NGF-inducible neurite outgrowth in neuronal PC12 cells. *Differentiation* 76:795-808, 2008.
77. Waters, M., Stasiewicz S., **Merrick B.A.**, Tomer, K., Bushel, P., Paules, R., Stegman, N., Nehls, G., Yost, K.J., Johnson, C.H., Gustafson, S.F., Xirasagar, S., Xiao, N., Huang, C-C., Boyer, P., Chan, D.D., Pan, Q., Gong, H., Taylor, J., Fostel, J., Choi, D., Rashid, A., Ahmed, A., Howle, R., Selkirk, J. and Tennant, R. CEBS: Chemical Effects in Biological Systems. A public data repository integrating study design and toxicity data with microarray and proteomics data. *Nucl Acids Res* 36:D892-900, 2008.
76. Brynczka, C. and **Merrick, B.A.** Nerve growth factor potentiates p53 DNA binding but inhibits nitric oxide-induced apoptosis in neuronal PC12 cells. *Neurochemical Research* 32:1573-1585, 2007.
75. Brynczka, C., Labhart, P. and **Merrick, B.A.** NGF-mediated transcriptional targets of p53 in PC12 neuronal differentiation. *BMC Genomics* 8:139 2007.
74. McNeill-Blue, C., Wetmore, B.A., Sanchez J.F., Freed, W.J. and **Merrick, B.A.** Apoptosis mediated by p53 in rat neural AF5 cells following treatment with hydrogen peroxide and staurosporine. *Brain Res* 1112:1-15, 2006.
73. **Merrick, B.A.** Toxicoproteomics in liver injury. *Ann NY Acad Sci* 1076:707-717, 2006.
72. **Merrick, B.A.**, Bruno, M.E., Madenspacher, J.H., Wetmore, B.A., Foley, J., Pieper, R., Zhao, M., Makusky, A.J., McGrath, A.M., Zhou, J.X., Taylor, J. and Tomer, K.B. Alterations in the Rat Serum Proteome During Liver Injury from Acetaminophen Exposure. *J Pharmacol Exptl Therap* 318:792-802, 2006.
71. Xirasagar S., Gustafson, S.F., Huang C-C, Pan Q., Fostel J.M., Boyer P., **Merrick, B.A.**, Tomer, K.B., Stasiewicz S., Chan, D.D., Yost K.J. III, Choi D., Xiao N., Bushel P.R. and Waters M.D. Chemical Effects in Biological Systems (CEBS) Object Model for Toxicology Data, SysTox-OM: Design, Implementation, and Application. *Bioinformatics* 22:874-882, 2006.
70. Liu, J., Xie, Y., **Merrick, B.A.**, Shen, J., Ducharme, D., Collins, J., Diwan, B.A., Logsdon, D. and Waalkes, M.P. Transplacental arsenic plus postnatal 12-O-teradecanoyl phorbol-13-acetate exposures associated with hepatocarcinogenesis induce similar aberrant gene expression patterns in male and female mouse liver. *Toxicol Appl Pharmacol* 213:216-23, 2006.
69. Liu, J., Xie, Y., Ducharme, D., Shen, J., Bhalchandra, A. Diwan, B.A., **Merrick, B.A.**, Grissom, S.F., Tucker, C.J., Paules, R.S., Tennant, R.W. and Waalkes, M.P. Global

- Gene Expression Associated with Hepatocarcinogenesis in Adult Male Mice Induced by *in Utero* Arsenic Exposure. *Environ Health Perspect* 114:404-411, 2006.
68. Fostel, J., Choi, D., Zwickl, C., Morrison N., Rashid A., Hasan A., Wenjun B., Richard A., Tong, W., Bushel, P., Brown, R., Bruno, M., Cunningham, M., Dix, D., Eastin, S., Frade, C., Garcia, A., Heinloth, A., Irwin, R., Madenspacher, J., **Merrick, B.A.**, Papoian, T., Paules, R.S., Rocca-Serra, P., Sansone, S., Stevens, J., Tennant, R.W., Tomer, K., Yang, C. and Waters, M.D. Chemical effects in biological systems – data dictionary (CEBS-DD): A compendium of terms for the capture and integration of biological study design description, conventional phenotypes and ‘Omics data. *Toxicol Sci* 88:585-601, 2005.
 67. **Merrick, B.A.** and Madenspacher, J.H. Complementary gene and protein expression studies and integrative approaches in toxicogenomics. *Toxicol Appl Pharmacol* 207:189-194, 2005.
 66. Fannin R.D., Auman J.T., Bruno M.E., Sieber S.O., Ward S.M., Tucker C.J., **Merrick B.A.**, Paules R.S. Differential gene expression profiling in whole blood during acute systemic inflammation in lipopolysaccharide-treated rats. *Physiol Genomics* 21:92-104, 2005.
 65. **Merrick, B.A.** and Bruno, M.E. Genomic and proteomic profiling for biomarkers and signature profiles of toxicity. *Curr Opin Molec Thera* 6:600-607, 2004.
 64. Wetmore, B.A. and **Merrick, B.A.** Toxicoproteomics: Proteomics applied to toxicology and pathology. *Toxicol Pathol* 32:619-642, 2004.
 63. Lobenhofer, E.K., Cui, X., Bennett, L., Cable, P.L., **Merrick, B.A.**, Churchill, G. A. and Afshari, C.A. Exploration of Low Dose Estrogen Effects: Identification of No Observed Transcriptional Effect Level (NOTEL). *Toxicol Pathol* 32:482-492, 2004.
 62. Xirasagar, S., Gustafson, S., **Merrick, B.A.**, Tomer, K.B., Stasiewicz, S., Chan, D.D., Yost, K.J., Yates, J.R., Xiao, N. and Waters, M.D. CEBS object model for systems biology data: SysBio-OM *Bioinformatics*: 20:2004-15, 2004.
 61. **Merrick, B.A.** and Tomer, K.B. Toxicoproteomics: A parallel approach to identifying biomarkers. *Environ Health Perspect* 111:A578-579, 2003.
 60. Waters, M, Boorman, G., Bushel, P., Cunningham, M., Irwin, R., **Merrick, B.**, Olden, K., Paules, R., Selkirk, J., Stasiewicz, S., Weis, B., Van Houten, B., Walker, N. and Tennant, R. Systems toxicology and the Chemical Effects in Biological Systems (CEBS) knowledge base. *Environ Health Perspect* 111:811-824, 2003.
 59. **Merrick, B.A.** The Human Proteome Organization, (HUPO), and Environmental Health. *Environ. Health Perspect Toxicogenomics* 111:797-801 2003.
 58. Iida, M., Anna, C., Hartis, J.E., Wetmore, B.A., Bruno, M.E., Dubin, J., Sieber, S., Bennett, L., Cunningham, M., Paules, R., Tomer, K.B., **Merrick, A.B.**, Sills, R.C. and Devereux, T.R. Changes in global gene and protein expression during early mouse liver Carcinogenesis induced by non-genotoxic model carcinogens oxazepam and Wyeth-14643. *Carcinogenesis*. 24:757-70, 2003. (*Please note listed A.B. Merrick*).
 57. Bruno, M.E., Borchers, C.H., Dial, M.J., Walker, N.J., Hartis, J.E., Wetmore, B.A., Barrett, J.C., Tomer, K.B. and **Merrick, B.A.** Effects of TCDD upon I κ B and IKK subunits localized in microsomes by proteomics. *Arch Biochem Biophys* 406:153-164, 2002.
 56. Chen, H., Liu, J., Zhao, C.Q., Diwan, B.A., **Merrick, B.A.** and Waalkes, M.P. Association of *c-myc* over-expression and hyperproliferation with arsenite-induced malignant transformation. *Toxicol Appl Pharmacol* 175:260-8, 2001.

55. Cobbs, C.S., Samanta, M., Harkins, L., Gillespie, G.Y., **Merrick, B.A.** and MacMillan-Crow, L.A. Evidence for peroxynitrite-mediated modifications to p53 in human gliomas: possible functional consequences. *Arch Biochem Biophys* 394:167-72, 2001.
54. **Merrick, B.A.**, Zhou, W., Martin, K.J., Jeyarajah, S., Parker, C.E., Selkirk, J.K., Tomer, K.B. and Borchers, C.H. Site-specific phosphorylation of human p53 protein determined by mass spectrometry. *Biochemistry* 40:4053-4066, 2001.
53. Chen, H., Liu, J., **Merrick, B.A.** and Waalkes, M.P. Genetic events associated with arsenic-induced malignant transformation: applications of cDNA microarray technology. *Mol Carcinogenesis* 30:79-87, 2001.
52. Zhou, W., **Merrick, B.A.**, Khaledi, M.G. and Tomer, K.B. Detection and sequencing of phosphopeptides affinity bound to immobilized metal ion beads by matrix-assisted laser desorption/ionization mass spectrometry. *J Am Soc Mass Spectrom* 22:273-282, 2000.
51. Zhao, W., He, C., Rotter, V., **Merrick, B.A.** and Selkirk, J.K. An intragenic deletion of nuclear localization signal-1 of p53 tumor suppressor gene results in loss of apoptosis in murine fibroblasts. *Cancer Letter* 147:101-108, 1999.
50. **Merrick, B.A.**, Walker, V. R., He, C., Patterson, R.M. and Selkirk, J.K. Induction of novel Grp75 isoforms by 2-deoxyglucose in human and murine fibroblasts. *Cancer Letter* 119:185-190, 1997.
49. Isaacs, J.S., Chiao, C., **Merrick, B.A.**, Selkirk, J.K., Barrett, J.C. and Weissman, B.E. p53-dependent p21 induction following gamma-irradiation without concomitant p53 induction in a human peripheral neuroepithelioma cell line. *Cancer Research* 57:2986-2992, 1997.
48. Selkirk, J.K., He, C., Patterson, R.M. and **Merrick, B.A.** Tumor suppressor p53 gene forms multiple isoforms: evidence for single locus origin and cytoplasmic complex formation with heat shock proteins. *Electrophoresis* 17:1764-1777, 1996.
47. **Merrick, B. A.**, He, C. Witcher, L.L., Patterson, R.M. Reid, J.J., Pence-Pawlowski, P.M. and Selkirk, J.K. HSP binding and mitochondrial localization of p53 protein in human HT1080 and mouse C3H10T1/2 cell lines. *Biochem Biophys ACTA* 1297:57-68, 1996.
46. Patterson, R.M., He, C., Selkirk, J.K. and **Merrick, B. A.** Human p53 expressed in baculovirus infected sf9 cells displays a two-dimensional isoform pattern identical to wild type p53 from human cells. *Arch Biochem Biophys* 330:71-79, 1996.
45. Allen, J.W., Dix, D.J., Collins, B.W., **Merrick, B.A.**, He, C., Selkirk, J.K., Poorman-Allen, P., Dresser, M.E. and Eddy, E.M. HSP70-2 is part of the synaptonemal complex in mouse and hamster spermatocytes. *Chromosoma* 104:414-421, 1996.
44. Boyd, J., Risinger, J.I., Wiseman, R.W., **Merrick, B.A.**, Selkirk, J.K. and Barrett, J.C. Regulation of microfilament organization and anchorage-independent growth by tropomyosin-1. *Proc Natl Acad Sci USA* 92:11534-11538, 1995.
43. He, C., **Merrick, B.A.**, Patterson, R.M. and Selkirk, J.K. Altered protein synthesis in p53 null and hemizygous transgenic mouse embryonic fibroblasts. *Appl Theoret Electrophoresis* 5:15-24, 1995.

42. Selkirk, J.K., **Merrick, B.A.** and He, C. Gel electrophoresis analysis of cellular and secreted proteins from resting and activated rat alveolar macrophages treated with pentamidine isothionate. *J. Chromatography A* 711:331-337, 1995.
41. Patterson, R.M., Selkirk, J.K. and Merrick, B.A. Baculovirus and insect cell gene biotechnology. *Environ Health Perspect* 103:756-759, 1995.
40. **Merrick, B.A.**, Pence, P. M., He, C., Patterson, R.M. and Selkirk, J.K. Phosphor Image Analysis of Human p53 Protein Isoforms. *BioTechniques* 18:292-299,1995.
39. Stefanski, S.A., Greenwell, A., **Merrick, B.A.**, Brown, T.A. and Reynolds, S.H. Proliferating cell nuclear antigen (PCNA) staining of Fischer 344/N rat spleens affected by large granular lymphocyte (LGL) leukemia. *Toxicologic Path* 23:1-6, 1995.
38. **Merrick, B.A.**, Patterson, R.M., Witcher, L.L., He, C. and Selkirk, J.K. Separation and sequencing of familiar and novel murine proteins using preparative two dimensional gel electrophoresis. *Electrophoresis* 15:735-745, 1994.
37. Selkirk, J.K., He, C. and **Merrick, B.A.** Mouse cells and null p53 mutation have all p53 isoforms deleted and lose negative growth control. *Appl Theor Electrophoresis* 4:89-93,1994.
36. He, C., **Merrick, B.A.**, Witcher, L.L., Patterson, R.M., Daluge, D.R. and Selkirk, J.K. Phenotypic change and altered protein expression in X-ray and methylcholanthrene transformed C3H10T1/2 cells. *Electrophoresis* 15:726-734, 1994.
35. Selkirk, J.K., **Merrick, B.A.** and He, C. Multiple p53 protein isoforms and formation of oligomeric complexes with hsp70 and hsp90 in the human mammary tumor T47D cell line. *Applied and Theoretical Electrophoresis* 4:11-18, 1994.
34. Patterson, R.M., Witcher, L.L., He, C., Selkirk, J.K. and **Merrick, B.A.** Improved protein detection with a polyvinylidene fluoride transfer membrane for two-dimensional gel electrophoresis. *BioTechniques* 14:752-753, 1993.
33. **Merrick, B.A.**, Witcher, L.L., Patterson, R.M., He, C. and Selkirk, J.K. Identification of two isoforms of phospholipase C- α from dividing murine fibroblasts by protein microsequencing. *Biochem Arch* 9:335-340, 1993.
32. He, C., **Merrick, B.A.**, and Selkirk, J.K. Two-dimensional gel electrophoretic analysis of cellular proteins from rodent cells treated with 3H-benzo(a)pyrene. *Polycyclic Aromatic Compounds Suppl* 3:773-780, 1993.
31. **Merrick, B.A.**, He, C., Dieter, M.P. and Selkirk, J.K. Two-dimensional gel electrophoresis of major cytosolic proteins derived from spleen mononuclear cells of normal and leukemic rats. *Applied and Theoretical Electrophoresis* 3:203-211, 1993.
30. Selkirk, J.K., Hite, M.C., Godfrey, V., **Merrick, B.A.**, He, C., Griesemer, R. A., Daluge, D.R. and Mansfield, B.K. Two-dimensional polyacrylamide gel electrophoretic characterization of proteins from organs of C3H mice expressing the Scurfy (sf) genetic mutation during early and late stages of disease progression. *Applied and Theoretical Electrophoresis*, 3:97-107, 1992.
29. **Merrick, B.A.**, He, C., Craig, W.A., Clark, G.C., Corsini, E., Rosenthal, G.J., Mansfield, B.K. and Selkirk, J.K. Two-dimensional gel electrophoresis of cellular and secreted proteins from alveolar macrophages after lipopolysaccharide treatment. *Applied and Theoretical Electrophoresis*, 2:177-187, 1992.

28. He, C., **Merrick, B.A.**, Mansfield, B.K., Hite, M.C., Daluge, D.R. and Selkirk, J.K. Comparison of ¹⁴C-amino acid mixture and ³⁵S-methionine labeling of cellular proteins from mouse fibroblast C3H10T1/2 cells by two dimensional gel electrophoresis. *Electrophoresis* 12:658-666, 1991
27. **Merrick, B.A.**, Robinson, M. and Condie, L.W. Cardiopathic effect of 1,2,3-trichloropropane after subacute and subchronic exposure in rats. *J Appl Toxicol* 11:179-187, 1991.
26. **Merrick, B.A.**, Robinson, M. and Condie, L.W. Subchronic toxicity of trichloroethylene in corn oil or aqueous oral gavage vehicles in B6C3F1 mice. *J Appl Toxicol* 9:15-21, 1989.
25. Schnell, R.C., Park, K.S., Davies, M.H., **Merrick, B.A.** and Weir, S.W. Protective effects of selenium on acetaminophen-induced hepatotoxicity in the rat. *Toxicol Appl Pharmacol* 95:1-11, 1988.
24. **Merrick, B.A.**, Smallwood, C.L., Meier, J.R., McKean, D.L., Kaylor, W.H. and Condie, L.W. Chemical reactivity, cytotoxicity and mutagenicity of chloropropanones. *Toxicol Appl Pharmacol* 91:46-54, 1988.
23. Davies, M.H., **Merrick, B.A.**, Birt, D.F. and Schnell, R.C. Differential effects of dietary selenium on glutathione related enzymes and on hepatic microsomal drug metabolism in the rat. *Drug Nutrient Interactions* 5:169-179, 1987.
22. Selkirk, J.K., **Merrick, B.A.**, Schaeffer, E. L., Mann, R.C. and Mansfield, B.K. The role of metabolism in benzo(a)pyrene carcinogenesis. *Prog Clin Biol Res* 209A:483-493, 1986.
21. Schwartz, D.P., Baird, W.M., Nikbakht, A., **Merrick, B.A.** and Selkirk, J.K. Benzo[a]pyrene: DNA adduct formation in normal human mammary epithelial cell cultures and the human mammary carcinoma T 47D cell line. *Canc Res* 46:2697-2702, 1986.
20. **Merrick, B.A.**, Davies, M.H. and Schnell, R.C. Effect of sodium selenite upon bromobenzene toxicity in rats. II. Metabolism. *Toxicol Appl Pharmacol* 83:279-286, 1986.
19. **Merrick, B.A.**, Davies, M.H., Hasegawa, R., St. John, M.K., Cohen, S.J. and Schnell, R.C. Effect of sodium selenite upon bromobenzene toxicity in rats. I. Hepatotoxicity. *Toxicol Appl Pharmacol* 83:271-278, 1986.
18. **Merrick, B.A.**, Mansfield, B.K., Nikbakht, P.A. and Selkirk, J.K. Benzo[a]pyrene metabolism in human T 47D tumor cells: evidence for sulfate conjugation and translocation of reactive metabolites across cell membranes. *Cancer Letters* 29:139-150, 1985.
17. **Merrick, B.A.** and Selkirk, J.K. HPLC of benzo[a]pyrene glucuronide, sulfate and glutathione conjugates and water-soluble metabolites from hamster embryo fibroblasts. *Carcinogenesis* 6:1303-1307, 1985.
16. Davies, M.H., **Merrick, B.A.**, Birt, D.F. and Schnell, R.C. Differential effects of dietary selenium on hepatic and renal glutathione metabolism in the rat. *Drug Nutrient Interactions* 3:229-238, 1985.
15. Frink, R.J., **Merrick, B.A.**, Hambly, M., Rose, J.P. and Breen, D.A. Long-term follow up of patients having cardiac catheterization and cardiac operation. *Western J Med* 142:773-776, 1985.

14. **Merrick, B.A.**, Davies, M.H., Cook, D.E., Holcslaw, T.L. and Schnell, R.C. Alterations in hepatic microsomal drug metabolism and cytochrome P-450 hemoproteins in spontaneously hypertensive (SHR) rats. *Pharmacology* 30:129-135, 1985.
13. Schnell, R.C., Bozigian, H.P., Davies, M.H., **Merrick, B.A.**, Park, K.S. and McMillan, D.A. Factors influencing circadian rhythms in acetaminophen lethality. *Pharmacology* 29:149-157, 1984.
12. Hasegawa, R., St. John, M.K., Cano, M., Issenberg, P., Klein, D.A., Walker, B.S., Jones, J.W., Schnell, R.C., **Merrick, B.A.**, Davies, M.H., McMillan, D.T. and Cohen, S.M. Bladder freeze ulceration and sodium saccharin feeding in the rat: Examination for urinary nitrosamines, mutagens and bacteria, and effects on hepatic microsomal enzymes. *Food and Chem Toxicol* 22:935-942, 1984.
11. Schnell, R.C., Davies, M.H., McMillan, D.A. and **Merrick, B.A.** Amelioration of bromobenzene toxicity by selenium and zinc. *Trace Substances in Environ Health* 18: 107-114, 1984.
10. **Merrick, B.A.**, Johnson, K.L., Davies, M.H. and Schnell, R.C. Selenite-induced protection of bromobenzene hepatotoxicity in male rats. *Toxicol Appl Pharmacol* 72:102-110, 1984.
9. Schnell, R.C., Bozigian, H.P., Davies, M.H., **Merrick, B.A.** and Johnson, K.L. Circadian rhythm in acetaminophen toxicity: role of nonprotein sulfhydryls. *Toxicol Appl Pharmacol* 71:353-361, 1983.
8. Davies, M.H., Bozigian, H.P., **Merrick, B.A.**, Birt, D.F. and Schnell, R.C. Circadian variation in glutathione S-transferase and glutathione peroxidase activities in the mouse. *Toxicol Letter* 19:23-27, 1983.
7. **Merrick, B.A.**, Johnson, K.L., Kester, K.A., Davies, M.H. and Schnell, R.C. Species and sex differences in selenium inhibition of hepatic microsomal drug metabolism in rodents. *Drug and Chem Toxicol* 6:329-340, 1983.
6. Schnell, R.C., Early, J.L., Deimling, M.J., **Merrick, B.A.** and Davies, M.H. Effects of acute and repeated selenium treatment on hepatic mono-oxygenase enzyme activity in male rats. *Toxicol Letter* 17:193-200, 1983.
5. **Merrick, B.A.** and Holcslaw, T.L. The peripheral vascular effects of atropine and methyl atropine in the rat autoperfused hindlimbs. *J Pharmacol Exptl Therap* 218:771-778, 1981.
4. **Merrick, B.A.** and Holcslaw, T.L. Direct vasodilator activity of atropine in the rat perfused hind limb preparation. *Clin Exptl Pharmacol Physiol* 8:277-281, 1981.
3. **Merrick, A.**, Hadley, W.M. and Holcslaw, T.L. The effect of large doses of atropine sulfate on heart rate and blood pressure in rats. *Res Comm Chem Path Pharmacol* 25:13-22, 1979.
2. Frink, R.J., **Merrick, B.A.** and Lowe, H.M. Mechanism of the bradycardia during coronary angiography. *Am J Cardiol* 35:13-22, 1975.
1. Frink, R.J. and **Merrick, B.A.** The sheep heart: coronary and conduction system anatomy with special reference to the presence of an os cordis. *Anatomical Record* 179:289-200, 1974.

BOOK CHAPTERS and SYMPOSIA:

15. **Merrick, B.A.**, Paules R.S. and Tice, R.R. Intersection of toxicogenomics and high throughput screening in the Tox21 program: an NIEHS perspective. *Internat J Biotechnol.* Submitted, 2014.
14. **Merrick, B.A.** Archival toxicoepigenetics: Molecular analysis of modified DNA from preserved tissues in toxicology studies. *In: Toxicology and Epigenetics.* Editor: Saura C. Sahu John Wiley and Sons, Inc., Chapter 20, pp. 387-407, August 2012.
13. **Merrick, B.A.** Chapter 4. Proteomics. *In: Molecular and Biochemical Toxicology.* Eds. Ernest Hodgson and Robert C. Smart; *John Wiley and Sons, Inc. Publishers.* Hoboken, NJ. pp. 41-66, August 2008
12. **Merrick, B.A.** Chapter Title: "Toxicoproteomics: correlating tissue and serum proteomics in liver injury." From Part VI: Biomarkers for the Assessment and Monitoring of Toxicity, bacteria and viral infection. *In: Clinical Proteomics – From Diagnostics to Therapy.* Eds. Jennifer Van Eyk and Michael Dunn; *John Wiley and Sons, VCH Inc. Publishers.* Weinheim, Germany (January 2008).
11. **Merrick, B.A.** and Bruno, M.E. Chapter Title: "Toxicoproteomics: Preclinical Studies" *In: Preclinical Development Handbook.* Ed. SC Gad; *John Wiley and Sons, Inc. Publishers.* Hoboken, NJ, March 2008.
10. Waters, M.D., Fostel, J.M., Wetmore, B.A., **Merrick, B.A.** Chapter 5. Toxicogenomics and Systems Toxicology *In: Computational Toxicology: Risk Assessment For Pharmaceutical and Environmental Chemicals.* Ed. Sean Ekins; *John Wiley and Sons, Inc. Publishers.* Hoboken, NJ, June 2007.
9. Waters, M.D., Boorman, G., Bushel, P., Cunningham, M., Irwin, R., **Merrick, A.**, Olden, K., Paules, R., Selkirk, J.K., Stasiewicz, S., vanHouten, B., Walker, N., Weis, B., Wan, H., Tennant, R. Chapter 10. "The Chemical Effects in Biological Systems (CEBS) Knowledge Base" *In: Handbook of Toxicogenomics: Strategies and Applications.* Ed. Jurgen Borlak, *John Wiley and Sons, Inc. Publishers.* Hoboken, NJ, 2005
8. **Merrick, B.A.** Chapter Title: "Introduction to High-Throughput Protein Expression" *In: Toxicogenomics: Principles and Applications.* Editors: H.H. Hamadeh and C.A. Afshari. *John Wiley and Sons, Inc. Publishers.* Hoboken, NJ, September 2004; pp. 263-281.
7. Chen, H., Liu, J., **Merrick, A. B.**, and Waalkes, M.P. Genetic events associated with arsenite-induced malignant transformation: application of cDNA microarray technology. *In: Proceedings of the Sixth International Symposium on Metal Ions in Biology and Medicine, France.* Vernet, P.G. (ed). John Libby Eurotext Ltd., pp.104-106, 2000.
6. Meier, J.R., Knohl, R.B., **Merrick, B.A.**, and Smallwood, C.L. Chapter 13: Importance of glutathione in the in vitro detoxification of 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone, an important mutagenic by-product of water chlorination. Sixth Conference on Water Chlorination: Chemistry, Environmental Impact, Health Effects, Vol. 6; Editor: R.L. Jolley, Lewis Publishers Inc. Chelsea MI; pp. 159-170, 1989.
5. **Merrick, B.A.**, Meier, J.R., Smallwood, C.L., McKean, D.L. and Condie, L.W. Chapter 26: Biochemical mechanisms of in vitro chloropropanone toxicity. Sixth Conference on Water

Chlorination: Chemistry, Environmental Impact, Health Effects, Vol. 6; Editor: R.L. Jolley, Lewis Publishers Inc., Chelsea MI; pp. 329-339, 1989.

4. **Merrick, B.A.**, Stober, J.A. and Condie, L.W. Chemical interactions among chloro-hydrocarbon mixtures found in wastewater effluents. Twentieth Mid-Atlantic Industrial Waste and Hazardous Materials Conference. Washington, D.C., pp. 434-443, 1988.
3. Selkirk, J.K., **Merrick, B.A.**, Schaeffer, E.L., Mann, R.A. and Mansfield, B.K. Role of metabolism in benzo[a]pyrene carcinogenesis. In: Genetic Toxicology of Environmental Chemicals, Part A: Basic Principles and Mechanisms of Action. Prog Clin Biol Res, 209A: pp. 483-493, 1986.
2. **Merrick, B.A.** and Selkirk, J.K. Separation of glucuronide, sulfate and glutathione conjugates of benzo[a]pyrene by HPLC. In: Polynuclear Aromatic Hydrocarbons: Ninth International Symposium. Chemistry, Characterization and Carcinogenesis. Ed. M.W. Cooke and A.J. Dennis; Battelle Press, Columbus, Ohio, pp. 561-577, 1984.
1. Schnell, R.C., Bozigian, H.P., Davies, M.H., McMillan, D.A., **Merrick, B.A.** and Johnson, K.L. Circadian rhythm in acetaminophen lethality. Ninth Annual Clinical Pharmacy Symposia, "Chronopharmacokinetics, Drugs and Mechanisms Used to Phase Shift Circadian Patterns". Florida A&M University, 1984.

BOOK REVIEWS and COMMENTARIES

3. Wetmore, B.A. and **Merrick, B.A.** Book Review of "Proteome Characterization and Proteomics" Volume 65, Advances in Protein Chemistry series, Edited by Richard D. Smith and Timothy D. Veenstra EHP - Toxicogenomics, 112:A706, 2004.
2. Wetmore, B.A. and **Merrick, B.A.** Book Review of "Handbook of Proteomic Methods" by P.M. Conn; Briefings in Functional Genomics and Proteomics, 3:266-268, 2003.
1. **Merrick, B.A.** Making proteins go their separate ways. Trends in Cell Biology 4:67-68, 1994.