CURRICULUM VITAE February 2021

John R. Bucher

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Education

B.A. Biology, Knox College, Galesburg, IL, June 1973
M.S. Biochemistry, University of North Carolina at Chapel Hill, December 1975
Ph.D. Pharmacology, University of Iowa, Iowa City, February 1981

Certification Diplomate, American Board of Toxicology, 1984- present

Thesis Titles

M.S "Studies on the Subunit Composition of Mammalian Cytochrome c Oxidase", under the direction of Professor Ralph Penniall, Department of Biochemistry, University of North Carolina at Chapel Hill

Ph.D. "Oxygen-Induced Alterations in the Morphology, Biochemistry, and Physiology of the Developing Rat Lung", under the direction of Professor Robert J. Roberts, Departments of Pediatrics and Pharmacology, The University of Iowa

Professional Positions

Acting Integrative Health Assessments Branch Chief, Jan. 2021- present
Director of Analysis, Division of the National Toxicology Program, Jan 2018- Dec. 2020
Director, Division of the National Toxicology Program, Feb 2011- Jan 2018
Associate Director, NTP, June 2007- Jan. 2018
Deputy Director, Environmental Toxicology Program (ETP), Dec. 1995 – June 2007
Chief, Toxicology Operations Branch, ETP, Sept. 1996 – June 2007
Chief, Toxicology Branch, ETP, Dec. 1995- Sept. 1996
Acting Deputy Director, ETP, Nov. 1993- Dec. 1995
Acting Chief, Toxicology Branch, ETP, Nov. 1993- Dec. 1995
Head, Toxicology Group, ETP, Jan. 1992
Head, General Toxicology Group, ETB, Dec. 1989
Head Study Reports Group, CTEB, July 1987
Toxicologist, National Toxicology Program, Sept. 1983 - present
Postdoctoral Fellow, Environmental Toxicology Center, Michigan State University, April 1981 to August 1983 with Dr. Steven Aust
Pre-doctoral Trainee, Department of Pharmacology, The University of Iowa, July 1977 to Feb. 1981 Dr. Robert J. Roberts
Research Technician, Departments of Hematology and Biochemistry,
U. North Carolina at Chapel Hill, December 1975 to June 1977 Dr. Ralph Penniall
Teaching Assistant, Department of Chemistry, U. North Carolina at Chapel Hill, September 1973 to December, 1975

Societies

Society of Toxicology North Carolina Society of Toxicology

Awards National Institutes of Health Award of Merit, 2019
National Institutes of Health Award of Merit, 2016
National Institutes of Health Director's Award, 2011
Doerenkamp-Zbinden Foundation Award for Animal Protection in Science 2009

National Institutes of Health Award of Merit, 2008
Elected Fellow, Collegium Ramazzini, 2007
National Institutes of Health Award of Merit, 2000
National Institutes of Health Director's Award, 1997
National Institutes of Health Award of Merit, 1992
National Institutes of Health Postdoctoral Fellowship, 1981-1983

Mentoring- Postdoctoral Fellows in Applied Toxicology and Carcinogenesis

Dr. Nancy Bordelon (2000-2001) Texas A&M, currently Alcon Labs, Ft. Worth, TX
Dr. Fernando Suarez (2002- 2006) Universidad de Caldas, currently Syngenta, Greensboro, NC
Dr. Adriana Doi (2002- 2005) Louisiana State Univ., currently BASF, RTP, NC
Dr. Michael Wyde (2003- 2004) Univ. North Carolina at Chapel Hill, currently NIEHS
Dr. Melissa Rhodes (2003-2004) Duke Univ., currently GlaxoSmithKline, RTP, NC
Dr. Matthew Stout (2006- 2009) Univ. North Carolina at Chapel Hill, currently NIEHS
Dr. Scott Auerbach (2007- 2009) Penn. State Univ., currently NIEHS
Dr. Chad Blystone (2008- 2009) Univ. of North Carolina at Chapel Hill, currently NIEHS

Advisory Groups/ Non NIEHS Committees/ Invited Lectures/Editorial Boards

Ad Hoc member Committee on Toxicology, National Research Council Meeting on the Health Effects of Ingested Fluoride, Irvine, CA, Nov 13-15, 1991

Board of Directors, American Board of Toxicology, April 1991- April 1995, Secretary, 1993

Ad Hoc Member FDA Food Advisory Committee to review the safety assessment requirements for genetically engineered foods and the Flavr Savr® tomato- April 6-8, 1994

National Occupational Research Agenda (NORA) Implementation Team for Mixed Exposures- April 1997-2000

SOT Animals in Research Committee- Feb 1997- 2001

Doses in Rodent Cancer Studies: Sorting Fact from Fiction- Delivered at the 1998 Arkansas Toxicology Symposium in honor of Dr. David Rall

Participant, IPCS Workshop on Developing a Conceptual Framework for Cancer Risk Assessment Feb. 1999, Lyon, France

Participant in Working Groups for preparation of IARC Monographs on Carcinogenic Risks to Humans, Vol. 48, 53, and 71

Rodent carcinogenicity of Di(2-ethylhexyl) Phthalate- Delivered at the FDA Workshop on Plasticizers: Scientific Issues in Blood Collection, Storage, and Transfusion; Oct. 18, 1999, Bethesda, MD

Invited speaker, “Science and Policy Initiatives of the National Toxicology Program”, Fall Meeting of the Association of Government Toxicologists, Nov. 18, 1999, Bethesda, MD

FIFRA Scientific Advisory Panel Meeting, Test Guidelines for Chronic Inhalation Toxicity and Carcinogenicity of Fibrous Particles, Sept 26, 2000, Arlington, VA

Participant, IPCS Task Group on Environmental Health Criteria for Fluorides, Beijing, China, May 28- June 1, 2001.

Member Steering Committee, ILSI Risk Science Institute Model Peer Review Center of Excellence

Member, ILSI Risk Science Institute, Human Relevance of Selected Animal Tumors Workgroup

Member, ILSI Health and Environmental Sciences Institute Alternatives to Carcinogenicity Testing Committee

Invited lecture, The National Toxicology Program Rodent Bioassay: Designs, interpretations and scientific contributions. *Carcinogenesis Bioassays and Protecting Public Health: Commemorating the Lifework of Cesare Maltoni and Colleagues*, New York Academy of Sciences, April 29, 30, 2002.

Presentation, Experience with Transgenic Models in the NTP Bioassay, NTP Workshop on Genetically Modified Rodent Models for Cancer Hazard Identification: Selecting Substances for Study and Interpreting and Communicating Results, February 21, 2003, Washington, DC.

Organized and Chaired Symposium Session on "Biological Interactions and Toxicity of Nanomaterials" 225th American Chemical Society Meeting, March 23, 2003, New Orleans, LA.

NTP Federal Technical Advisor to the EPA National Pollution Prevention and Toxics Advisory Committee, 2003- present

Chair- Session VIII, Nanoscale Materials and Public Health, 29th Annual Winter Meeting of the Toxicology Forum, February 2-4, Washington, DC.

Presentation, The National Toxicology Program Nanotechnology Safety Initiative, President's Advisory Council on Science and Technology, March 30, 2004, Washington, DC

Invited presentation, NTP Studies on Methyl Isocyanate, Annual Ramazzini Days 2004, Collegium Ramazzini, Carpi, Italy, Oct. 26, 2004.

Invited presentation, NTP Studies on Dioxin and Dioxin-like Compounds, Annual Ramazzini Days 2004, Collegium Ramazzini, Carpi, Italy, Oct. 26, 2004.

Presentation, Closing Remarks and Next Steps- Workshop "Developing Experimental Approaches for Evaluation of Toxicological Interactions of Nanoscale Materials" University of Florida, Gainesville, Nov. 4, 2004.

Invited talk, "NTP Roadmap", 30th Annual Winter Meeting of the Toxicology Forum, Washington, DC, Feb. 1, 2005

Invited participant, WHO-IPCS Human Cancer Guidelines Harmonization Workgroup, Bradford, UK, April 21-23, 2005.

Invited participant, WHO-IPCS Consultative Group on the CICAD for Tetrachloroethylene, Monks Wood, UK, April 25-27, 2005.

Invited presentation, The NTP Today, 25th NTP Aniversary Celebration, Washington, DC May 2005.

Invited speaker, fall meeting of the Charles Lewis Davis Foundation, Northeast Division, "The Rodent Bioassay, History, Status and Future", Nutley, NJ, November 11, 2005.

Permanent Member- EPA Science Advisory Panel, 2006-2010.

Briefing US House Committee on Science staff – NTP Nanotechnology Safety Initiative, Dec. 13, 2005

Briefing, Senator Pryor's staff- NTP Nanotechnology Safety Initiative, April 27, 2006

Congressional science briefing on "Evaluating Environmental and Human Health Risks from Nanomaterials" lectures to House and Senate staff. Organized by the Society of Toxicology, September 7, 2006

Chair, NIH Research Festival, 2006, invited program "Benefits and Risks of ART in Preventing Mother-to-Child Transmission of HIV" October 18, 2006 Bethesda, MD

Invited Speaker, Central States Society of Toxicology Meeting, "The National Toxicology Program and Toxicology in the 21st Century" September 21, 2007, Iowa City, IA.

Invited talk-" The National Toxicology Program and Toxicology in the 21st Century", Johns Hopkins Center for Alternatives to Animal Testing, Oct. 23, 2007, Tucson, AZ.

Invited talk- "Transforming Environmental Health Protection" ACS ProSpectives Conference-Mechanisms of Chemically-induced Toxicity for Medicinal Chemistry, May 20, 2008, Philadelphia, PA.

Invited talk- "The NTP Reorganization: New Leadership and New Directions" The 34th Annual Meeting of the Toxicology Forum, July 8, 2008, Aspen, CO.

Invited talk- "Transforming Environmental Health Protection" Translational Biomedical Research Seminar Series, U. of Illinois college of Veterinary Medicine, Urbana, IL, Oct. 6, 2008.

Invited talk- "The Vision for Toxicology in the 21st Century" Committee on Toxicity Workshop on 21st Century Toxicology, Meriden, UK, Feb. 11, 2009.

Invited talks- "What is Required for Acceptance?" and "A Perspective from NIEHS" National Research Council Symposium "Toxicity Pathway-Based Risk Assessment: Preparing for Paradigm Change", Washington DC, May 11-13, 2009.

Senate Appropriations Committee Hearing, Subcommittee on Labor, Health and Human Services, Education and Related Agencies, The Health Effects of Cell Phone Use, Washington, DC, September 14, 2009.

Invited talk- "Weighing evidence from NTP studies", Institute of Medicine, Committee on Breast Cancer and the Environment, San Francisco, CA, July 6-7, 2010.

Invited talk "Tox 21: Turning the Promise into Practice" Workshop on Emerging techniques in the evaluation of endocrine related endpoints. FDA, Washington DC, Nov. 18, 2010.

Invited talk "Toxicology in the 21st Century, Transforming Environmental Health Protection" Toxicology Testing in the 21st Century and Alternative Methods. Workshop organized by Italian Platform on Alternative Methods, European Consensus-Platform for Alternatives, Milan Italy Nov. 26, 2010.

Invited Lecture "The National Toxicology Program Perspective on Transforming our Discipline" Morgridge Institute Inaugural Seminar Series, University of Wisconsin, Madison, September 13, 2011.

Invited panelist, When Epidemiology and Basic Science Don't Agree: Developing a Path Forward, UNC-CH Center for Environmental Health and Susceptibility, November 14, 2011.

Invited talk, The National Toxicology Program: Providing Science for Public Health Decisions, EOHS Seminar Series, U. Texas Health Science Center, Houston, January 20, 2012

Invited participant, International Agency for Research on Cancer, preparation of Monograph 100+, Lyon, France, April 16-18, and Nov 28-30, 2012.

Invited talks, NTP, New Assays, New Approaches; and Tox21: European Food Safety Authority, Parma, Italy, Dec 3, 2012.

Invited participant, Mode of Action: Recent Developments, Regulatory Application and Future Work. Vienna, Austria, February 21-22, 2013.

Keynote Address: Current Issues and New Approaches in Environmental Health Research at the NIEHS and NTP, North American Hazardous Materials Management Conference 2013, St. Paul MN Sept 25, 2013.

Keynote Address: Applications to Risk Assessment of New Approaches in Toxicology Research and Testing, Advancing Risk Assessment of Environmental Agents, Karolinska Institutet, Stockholm Sweden, Nov 20-21, 2013.

Invited talk, New Directions for Toxicology: The National Toxicology Program, Fourth Workshop on Validation and Qualification of New In Vitro Tools and Models for the Pre-clinical Drug Discovery Process, National Institutes of Health, Bethesda, Mar 6, 2014.

Invited participant, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Advisory Group to Recommend Priorities for IARC Monographs, Lyon France, April 7-9, 2014.

Invited talk, " Studies of liver neoplasia in the National Toxicology Program" American Association for Studies of Liver Disease, Washington, DC, October 14, 2015.

Invited talk, The NIEHS And Ramazzini Institute Collaboration: Looking to the Past and Framing the Future, Collegium Ramazzini, Carpi Italy, October 25, 2014.

Society of Toxicology Annual Meeting, "Assessing Confidence in Tox21", San Diego, CA, March, 2015.

Invited talk, Assessing Confidence in Tox21, Elucidating Environmental Dimensions of Neurological Disorders and Diseases: Understanding New Tools from Federal Chemical Testing Programs, UC Davis Conference Center Davis, CA June 18-19, 2015.

Invited talk, "Approaches for considering mechanistic information in systematic reviews", Advancing Systematic Review for Chemical Risk Assessment, US Environmental Protection Agency, Arlington, VA, December 16-17, 2015.

Invited talk, "Use of All Available Data in Accelerated Chemicals Assessment", Accelerating the Pace of Chemical Risk Assessments Workshop, US Environmental Protection Agency, Washington, DC, September 14 – 15, 2016.

Invited talk, Use of All Available Data in Chemicals Assessment, Collegium Ramazzini, Carpi Italy, October 30, 2016.

Invited talk, "Testing methods for low dose toxicity, including new *in-vivo* and *in vitro* methods" Identifying and Evaluating Alternative Materials: The Case of BPA-Free Can Linings, Berkeley Center for Green Chemistry, UC Berkeley, Berkeley CA, November 4, 2016

Invited talk, "Environmental Carcinogenesis: Progress, Challenges, and Opportunities", Annual Meeting American Association for Cancer Research, Washington, DC, April 1, 2017

Invited talk, Current NTP efforts in gene expression based risk assessment, 2nd annual Accelerating the Pace of Chemical Risk Assessment, Helsinki, Finland, October 5, 2017

Invited talk, New frameworks and strategies for integrating divergent data streams, 3nd annual Accelerating the Pace of Chemical Risk Assessment, Ottawa Canada, October 12, 2018

Publications

Bucher, JR and Penniall, R (1975) The subunit composition of beef heart cytochrome *c* oxidase. *FEBS Letters* 60:180-184.

Holbrook, J, Bucher, JR and Penniall, R (1976) The binding by an NAD+ affinity matrix of contaminating dehydrogenases in cytochrome c oxidase preparations. *Hoppe-Seyler's Z. Physiol. Chem.* 357:623-627.

Bernstein, JD, Bucher, JR and Penniall, R (1978) Origin of mitochondrial enzymes V. The polypeptide character and the biosynthesis of rat liver cytochrome *c* oxidase polypeptides by mitochondria. *J. Bioenergetics and Biomembranes* 10:59-74.

Frank, L, Bucher, JR and Roberts, RJ (1978) Oxygen toxicity in neonatal and adult animals of various species. *J. Appl. Physiol.* 45:699-704.

Herion, JC, Bucher, JR, Penniall, R, Walker, RI, Baker, M, and Roberts, HR (1979) Isolation and characterization of granulocyte lysosomal proteins and study of their effects on the clotting system. *Am. J. Hematology* 7:265-279.

Bucher, JR and Roberts, RJ (1981) The development of the newborn rat lung in hyperoxia: A dose-response study of lung growth, maturation and changes in antioxidant enzyme activities. *Pediatric Res.* 15:999-1008.

Bucher, JR and Roberts, RJ (1981) α-Tocopherol (vitamin E) content of lung liver, and blood in the newborn rat and human infant: Influence of hyperoxia. *J. Pediatrics* 98:806-811.

Bucher, JR and Roberts, RJ (1982) Effects of α-tocopherol treatment on newborn rat lung development and injury in hyperoxia. *Pediatric Pharmacol*. 2:1-9.

Tien, M, Bucher, JR and Aust, SD (1982) Thiol-dependent lipid peroxidation. *Biochem. Biophys. Res. Commun.* 107:279-285.

Tien, M, Morehouse, LA, Bucher, JR and Aust, SD (1982) The multiple effects of EDTA in several model lipid peroxidation systems. *Arch. Biochem. Biophys*. 218:450-458.

Morehouse, LA, Tien, M, Bucher, JR and Aust, SD (1983) Effect of hydrogen peroxide on the initiation of microsomal lipid peroxidation. *Biochem. Pharmacol*. 32:123-127.

Bucher, JR, Tien, M and Aust, SD (1983) The requirement for ferric in the initiation of lipid peroxidation by chelated ferrous iron. *Biochem. Biophys. Res. Commun*. 111:777-784.

Roberts, RJ, Weesner, KM and Bucher, JR (1983) Oxygen-induced alterations in lung vascular development in the newborn rat. *Pediatric Res*. 17:368-376.

Bucher, JR, Tien, M, Morehouse, LA and Aust, SD (1983) Redox cycling and lipid peroxidation: the central role of iron chelates. *Fundam. Appl. Toxicol*. 3:222-226.

Roberts, RJ, Rendak, I, and Bucher, JR (1983) Lipid peroxidation in the newborn rat: influence of fasting and hyperoxia on ethane and pentane in expired air. *Developmental Pharmacol. Therapeutics* 6:170-178.

Bucher, JR, Huff, JE and Kluwe, WM (1986) The toxicity and carcinogenicity of isophorone in F344/N rats and B6C3F1 mice. *Toxicology* 39:207-219.

Luster, MI, Tucker, AN, Germolec, DR, Silver, MT, Thomas, PT and Bucher, JR (1986) Immunotoxicity studies on mice exposed to methyl isocyanate. *Toxicol. Appl. Pharmacol*. 86:140-144.

Boorman, GA, Brown, R, Gupta, BN, Uraih, LC and Bucher, JR (1987) Pathologic changes following acute methyl isocyanate inhalation and recovery in B6C3F1 mice. *Toxicol. Appl. Pharmacol*. 87:446-456.

Bucher, JR, Alison, R, Montgomery, CA, Huff, J, Haseman, JK, Farnell, D, Thompson, R and Prejean, JD (1987) Comparative toxicity and carcinogenicity studies of chlorinated paraffins in F344/N rats and B6C3F1 mice. *Fundam. Appl. Toxicol*. 9:454-468.

McConnell, EE, Bucher, JR, Schwetz, BA, Gupta, BN, Shelby, MD, Luster, M, Brody, AR, Boorman, GA and Richter, C (1987) The toxicity of methyl isocyanate. *Environmental Science and Technology*, 21:188-192.

Bucher, JR (1987) Methyl isocyanate: A review of health effects research since Bhopal. *Fundam. Appl. Toxicol*. 9:367-379.

Mitsumori, K, Boorman, GA, Gupta, BN, and Bucher, JR (1987) Four-day inhalation and recovery study of methyl isocyanate in F344 rats and B6C3F1 mice. *Fundam. Appl. Toxicol*. 9:480-495.

Bucher, JR, Gupta, BN, Adkins, B, Jr, Thompson, M, Jameson, CW, Thigpen, JE and Schwetz, BA (1987) The toxicity of inhaled methyl isocyanate in F344/N rats and B6C3F1 mice. I. Acute exposure and recovery studies. *Environ. Health Perspect*. 72:53-61.

Bucher, JR, Gupta, BN, Thompson, M, Adkins, B Jr and Schwetz, BA, (1987) The toxicity of inhaled methyl isocyanate in F344/N rats and B6C3F1 mice. II. Repeated dose and recovery studies. *Environ. Health Perspect*. 72:131-136.

Hong, HL, Bucher, JR, Canipe, J and Boorman, GA (1987) Myelotoxicity induced in female B6C3F1 mice by methyl isocyanate. *Environ. Health Perspect*. 72:141-146.

Uraih, LC, Talley, FA, Mitsumori, K, Gupta, BN, Bucher, JR, and Boorman, GA (1987) Ultrastructural changes in the nasal mucosa of rats and mice following an acute exposure to methyl isocyanate. *Environ. Health Perspect*. 72:81-92.

Boorman, GA, Uraih, LC, Gupta, BN and Bucher, JR (1987) Two-hour methyl isocyanate inhalation and 90-day recovery study in B6C3F1 mice. *Environ. Health Perspect*. 72:63-69.

Tucker, AN, Bucher, JR, Germolec, DR, Silver, MT, Vore, SJ and Luster, MI (1987) Immunological studies on mice exposed acutely to methyl isocyanate. *Environ. Health Perspect*. 72:137-139.

Bucher, JR, Boorman, GA, Gupta, BN, Uraih, LC, Hall, LB and Stefanski, SA (1987) Two-hour methyl isocyanate inhalation exposure and 91-day recovery: A preliminary description of pathologic changes in F344 rats. *Environ. Health Perspect*. 72:71-75.

Gupta, BN, Stefanski, SA, Bucher, JR and Hall, LB (1987) Effect of methyl isocyanate vapor on the eyes of Fischer 344 rats. *Environ. Health Perspect.* 72:77-80.

Stevens, MA, Fitzgerald, S, Menache, MG, Costa, DL and Bucher, JR (1987) Functional evidence of persistent airway obstruction in rats following a two-hour inhalation exposure to methyl isocyanate. *Environ. Health Perspect.* 72:93-98.

Bucher, JR, Huff, J and Haseman, JK (1988) Toxicity and carcinogenicity studies of phenylephrine hydrochloride in F344 rats and B6C3F1 mice. *Drug Chem. Toxicol.* 11:355-370.

Bucher, JR, Uraih, LC, Hildebrandt, PK, Sauer, RM, and Seely, JC (1989) Carcinogenicity and pulmonary pathology associated with a single 2-hour inhalation exposure of laboratory rodents to methyl isocyanate. *J. Nat. Cancer Instit.* 81:1586-1587.

Bucher, JR, Huff, J, Haseman, JK, Eustis, SE, Elwell, MR, Davis, WE, Jr. and Meierhenry, EF (1990) Toxicity and carcinogenicity studies of diuretics in F344/N rats and B6C3F1 mice. 1. Hydrochlorothiazide. *J. Appl. Toxicol.* 10:359-367.

Bucher, JR, Huff, J, Haseman, JK, Eustis, SE, Davis, WE, Jr. and Meierhenry, EF (1990) Toxicity and carcinogenicity studies of diuretics in F344/N rats and B6C3F1 mice. 2. Furosemide. *J. Appl. Toxicol.* 10:369-378.

Rivera, A, Abdo, K, Bucher, JR, Leininger, JR, Montgomery, CA, and Roberts, RJ (1990) Toxicity studies of intravenous vitamin E in newborn rabbits. *Develop. Pharmacol. Therapeutics* 14:231-237.

Morgan, DL, Bucher, JR, Huff, JE, Eustis, SL, Haseman, JK, Lemen, JK, Ulland, BM, and Mennear, JH (1990) Multi-organ carcinogenicity of 3'3-dimethoxybenzidine dihydrochloride given in drinking water to F344/N rats. *J. Am. Col. Toxicol.* 9:79-91.

Bucher, JR, Huff, JE, Haseman, JK, Eustis, SE, Lilja, HS, and Murthy, ASK (1990) No evidence of toxicity or carcinogenicity of pentaerythritol tetranitrate given in the diet to F344 rats and B6C3F1 mice for up to two years. *J. Appl. Toxicol.* 10:353-357.

Bucher, JR, Elwell, M, Thompson, MB, Chou, BJ, Renne, R and Ragan, HA (1990) Inhalation toxicity studies of cobalt sulfate in F344/N rats and B6C3F1 mice. *Fundam. Appl. Toxicol.* 15:357-372.

Morgan, DL, Bucher, JR, Elwell, MR, Lilja, HS, Murthy, ASK (1990) Comparative toxicity studies of ethylene dichloride in F344/N, Sprague Dawley and Osborne-Mendel rats. *Food Chem. Toxicol.* 28:839-845.

Morrissey, RE, Eustis, S, Haseman, JK, Huff, J, Bucher, JR (1991) Toxicity and carcinogenicity studies of nalidixic acid in rodents. *Drug Chem. Toxicol.* 14:45-66.

Bucher, JR, Huff, JE, Haseman, JK, Eustis, SL, Peters, A and Toft, JD. (1990) Neurotoxicity and carcinogenicity of N-methylolacrylamide in F344 rats and B6C3F1 mice. *J. Toxicol. Environ. Health* 31:161-177.

Bucher, JR, Hejtmancik, MR, Toft, JD, Persing, RL, Eustis, SL, and Haseman, JK (1991) Results and conclusions of the National Toxicology Program's rodent carcinogenicity studies with sodium fluoride. *Int. J. Cancer* 48:733-737.

Huff, J, Bucher, J and Yang, R (1991) Carcinogenesis studies in rodents for evaluating risks associated with chemical carcinogens in aquatic food animals. *Environ. Health Perspect.* 90:127-132.

Bucher, JR, Jokinen, M, Haseman, JK, Huff, JE, Steadhan, M and Cholakis, JM (1991) Inhalation of tetranitromethane causes nasal passage irritation and pulmonary carcinogenesis in rodents. *Cancer Let.* 57:95-101.

Huff, J, Cirvello, J, Haseman, J and Bucher, J (1991) Chemicals associated with site-specific neoplasia in 1372 long-term carcinogenesis experiments in laboratory rodents. *Environ. Health Perspec*. 93:247-271.

Yuan, J, Bucher, JR, Goehl, TJ, Dieter, MP and Jameson, CW (1992) Quantitation of cinnamaldehyde and cinnamic acid in blood by HPLC. *J. Anal. Toxicol*. 16:359-362.

Kari, FW, Bucher, JR, Eustis, SL, Haseman, JK, and Huff, JE (1992) Chronic toxicity and carcinogenicity of hydroquinone in F344/N rats and B6C3F1 mice. *Food Chem. Toxicol*. 30:737-747.

Yuan, J, Dieter, MP, Bucher, JR, Jameson, CW (1992) Toxicokinetics of cinnamaldehyde in F344 rats. *Food Chem. Toxicol*. 12:997-1004.

Bucher, JR and Dunnick, JK (1992) Diuretic use and risk factors for cancer: Results of animal studies. *J. Nat. Cancer Instit*. 84:1209-1210.

Yuan, J, Dieter, MP, Bucher, JR, and Jameson, CW (1992) Application of microencapsulation for toxicology studies III. Bioavailability of microencapsulated cinnamaldehyde. *Fundam. Appl. Toxicol*. 20:83-87.

Hébert, CD, Elwell, MR, Travlos, GS, Zeiger, E, French, JE, Persing, R and Bucher, JR (1993) 2- and 13-Week studies of the inhalation toxicity of 1,6-hexanediamine dihydrochloride in F344/N rats and B6C3F1 mice. *Fundam. Appl. Toxicol*. 20:348-359.

Chhabra, RS, Bucher, JR, Haseman, JK, Elwell, M, Kurtz, PJ, and Carlton, BD (1993) Comparative carcinogenicity of 5,5-diphenylhydantoin with or without perinatal exposure in rats and mice. *Fundam. Appl.Toxicol*. 21:174-186.

Hébert, CD, Elwell, MR, Travlos, GS, Fitz, CJ, and Bucher, JR (1993) Toxicity studies of cupric sulfate administered in drinking water and feed to F344/N rats and B6C3F1 mice. *Fundam. Appl. Toxicol*. 21:461-475.

Chhabra, RS, Bucher, JR, Haseman, JK, Elwell, MR, Kurtz, PJ, and Carlton, BD (1993) Comparative carcinogenicity of polybrominated biphenyls with or without perinatal exposure in rats and mice. *Fundam. Appl. Toxicol*. 21:451-461.

Bucher, JR, Melnick, RL, and Hildebrandt, PK (1993) Lack of carcinogenicity in mice exposed once to high concentrations of 1,3-butadiene. *J. Nat. Cancer Instit*. 85:1866-1867.

Dunnick, JK, Elwell, MR, and Bucher, JR (1994) Comparative toxicities of *o-, m,* and *p*-nitrotoluene. Fundam. Appl. Toxicol. 22:411-421.

Melnick, RL, Mahler, J, Bucher, JR, Thompson, M, Hejtmancik, M, Ryan, MJ, and Mezza, LE (1994) Toxicity of diethanolamine. 1. Topical application and drinking water exposures in F344 rats. *J. Appl. Toxicol.* 14:1-9.

Melnick, RL, Mahler, J, Bucher, JR, Thompson, M, Hejtmancik, M, Singer, A, and Persing, RL (1994) Toxicity of diethanolamine. 2. Topical application and drinking water exposures in B6C3F1 mice. *J. Appl. Toxicol.* 14:11-19.

Cunningham, ML, Maronpot, RR, Thompson, MB, and Bucher, JR (1994) Early responses of the liver of B6C3F1 mice to the hepatocarcinogen oxazepam. *Toxicol. Appl. Pharmacol*. 124:31-38.

Chan, PC, Mahler, J, Bucher, JR, Travlos, GS, and Reid, JB. (1994) Toxicity and carcinogenicity of riddelliine following 13 weeks of treatment to rats and mice. *Toxicon* 32:891-908.

Bucher, JR, Shackelford, CC, Haseman, JK, Johnson, JD, Kurtz, PJ, and Persing, RL (1994) Studies of the hepatocarcinogenicity of oxazepam in mice. *Fundam. Appl. Toxicol*. 23:280-297.

Devereux, TR, White, CM, Sills, RC, Bucher, JR, Maronpot, RR, and Anderson, MW (1994) Low Frequency of H-ras mutations in hepatocellular adenomas and carcinomas and in hepatoblastomas from B6C3F1 mice exposed to oxazepam in the diet. *Carcinogenesis*, 15:1083-1087.

Raymer, JH, Slauter, RW, Velez, GR, Gaudette, N. and Bucher, JR (1994) A non-rebreathing breath collection system for the study of exogenous and endogenous compounds in the Fischer-344 rat. *Toxicol. Methods* 4:243-258.

Kari, F, Bucher, J, Haseman, J, Eustis, S, and Huff, J (1995) Long-term exposure to the anti-inflammatory agent phenylbutazone induces kidney tumors in rats and liver tumors in mice, *Jpn. J Cancer Res*. 86:252-263.

Bucher, JR, Morgan, DL, Adkins, B, Jr., Travlos, GS, Davis, BJ, Morris, R, and Elwell, MR (1995) Little evidence of early changes in sex hormones in mice exposed to the uterine carcinogens chloroethane or bromoethane. *Toxicol. Appl. Pharmacol*. 130:169-173.

Travlos, GS, Mahler, J, and Bucher, JR (1995) 13-Week inhalation toxicity of 2- and 4-chloronitrobenzene in F344/N rats and B6C3F1 mice. *Fundam. Appl. Toxicol*. 30:75-92.

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