

Nigel John Walker

Work Address

National Institute of Environmental Health Sciences
National Institutes of Health
111 Alexander Drive
PO Box 12233, Mail Drop K2-02
Research Triangle Park,
North Carolina, 27709.
(919) 541-4893
(919) 236-3891 (Cell)
(301) 451-5596 (Fax)
Email: walker3@niehs.nih.gov

Citizenship

US Citizen (Naturalized, August 7th 2002)

Education

Ph.D. 1989-1993 Biochemistry, University of Liverpool, United Kingdom.
B.Sc. 1983-1987 Biochemistry, University of Bath, United Kingdom.

Board certification

DABT 2007-present Diplomate, American Board of Toxicology
(Recertified, December 2012)

Employment History/Positions Held

2011-present Deputy Director for Science
Division of the National Toxicology Program,
National Institute of Environmental Health Sciences

2007-2011 Deputy Program Director for Science
National Toxicology Program, Division of Intramural Research
National Institute of Environmental Health Sciences

2002-2007 NIH Staff Scientist
Toxicology Operations Branch,
Environmental Toxicology Program, Division of Intramural Research
National Institute of Environmental Health Sciences

1998 – 2002 NIH Research Fellow
Laboratory of Computational Biology and Risk Analysis
Environmental Toxicology Program,
National Institute of Environmental Health Sciences,

1995 – 1998 Postdoctoral Trainee
Laboratory of Computational Biology and Risk Analysis
Environmental Toxicology Program, Division of Intramural Research
National Institute of Environmental Health Sciences, National Institutes of Health
Research Triangle Park, North Carolina.

1993-1995 Postdoctoral Trainee,
Division of Toxicological Sciences, School of Hygiene and Public Health,
Johns Hopkins University,
Baltimore, Maryland.

1987-1989 Research Technician,
Division of Neurology,
Duke University Medical Center
Durham, North Carolina.

Invited scientific interactions and consultations:

Invited member of the Working Group for the International Agency for Research on Cancer (IARC) Monographs on the Evaluation of Carcinogenic Risks to Humans; Volume 107; Polychlorinated biphenyls and polybrominated biphenyls. Lyon France. February 2013

Invited member of the Nanomaterial Registry Advisory Board, Research Triangle Institute, NC, January 2011-present.

Invited member of the Scientific Oversight Committee for the National Cancer Institute's Nanotechnology Characterization Laboratory (NCL) 2006-present.

Invited Breakout Group Chairperson: US-EU Workshop Bridging Nano EHS efforts-A joint workshop, Washington DC, USA., March 2011

Invited Panelist, Environment: A Human Health Perspective; Teacher Professional Development Workshop, NIEHS, RTP, NC, August 2011

Invited participant. NIEHS Strategic Planning Stakeholder Workshop and Working Group meetings. September-October 2011, RTP, NC

Invited discussant. NIEHS Public Interest Partners Meeting, Washington DC, "NIEHS/NTP Activities Evaluating the Safety of Nanoscale Materials". December 2011

Invited workshop participant, Johns Hopkins Bloomberg School of Public Health Center for Alternatives to Animal Testing Workshop "Nanotechnology and Nanomaterials – Addressing Challenges to Safety Assessment and Regulation" Baltimore, MD, October 2010

Invited panelist- Dose-Response Approaches for Nuclear Receptor- Mediated Modes of Action Workshop NIEHS, RTP, NC, September, 2010

Invited participant- Roundtable discussion: Toxicology Testing in the 21st Century: Is This The Right Course for Better, Quicker Regulatory Decisions? 36th Annual Summer Meeting of The Toxicology Forum, Aspen, CO, July 2010

Participant in the US Government Interagency Working Group on Nanotechnology Environmental and Health Implications (NEHI), of the Nanoscale Science, Engineering, and Technology Subcommittee of the President's National Science and Technology Council. 2004-present

Invited member of the Advisory Board for the University of California's Lead campus Program in Nanotoxicology Research and Training. 2006-2010

Invited member of International Advisory Board (IAB) of the European Union project "Assessing the toxicity and hazard of non-dioxin like PCBs" (ATHON) (FOOD-CT-2005-022923) 2006-2010

Invited peer-reviewer: U.S. EPA's "Recommended Toxicity Equivalency Factors (TEFs) for Human Health Risk Assessments of Dioxin and Dioxin-Like Compounds" October 2009.

Invited participant, EPA Nanomaterial Case Studies Workshop, Research Triangle Park, September 2009

Invited participant, Interagency Workgroup for identification of data needs for hazard assessment, risk assessment, and predictive modeling for nanomaterials. Washington DC, May 2009

Invited participant, Interagency Advisory group for NIST activities on Nano-EHS measurement and standards. Washington DC, May 2009,

Invited expert panel member and session chair. USEPA Dioxin Workshop, Cincinnati, OH, February 2009

Invited member of the Council of Canadian Academies' Expert Panel on Nanotechnology. 2007-2008

Invited member and regular participant: ILSI-Health and Environmental Sciences Institute (HESI) Nanomaterial Safety Subcommittee, 2004-2008.

Invited participant, NanoHealth Enterprise Coordination Meeting, Bethesda, MD. 2008

Interviewed for development of Lux Research's "The Nanotech Report", 2008

Consulted by French Government Representative Claude Gatignol, Office for Science and Technology Options Assessment, on status of NTP activities on pesticides. June 2008.

Invited participant; International Congress on Nanotechnology's Nanomaterial Environmental Health and Safety Research Needs Assessment Workshop, Washington DC. January 2007

Invited external peer reviewer for NIOSH's Nanotechnology Research Center Progress Report, 2006.

Invited Peer Review Panel member for USEPA's Nanotechnology White Paper, Washington DC. April 2006

Invited working group chairperson: Woodrow Wilson International Center for Scholars' Working Conference on Engineered Nanomaterials & Human Health, Washington DC, April 2006

Interviewed for development of Lux Research's "The Nanotech Report", 4th Edition. 2006.

Interviewed for a segment on nanotechnology research at NIEHS for the UNC-TV program "North Carolina Now" aired on September 18th 2006

Interviewed for and quoted in an article titled "Nanotech's tiny revolution raises caution" published in the Sacramento Bee, August 19th, 2006

Interviewed for an article on nanotoxicology by Mechanical Engineering Magazine, July 2006

Interviewed for an article on nanotechnology by VEJA, Brazil's best-selling news magazine, June 2006.

Interviewed for and quoted in an article titled "Science's Tiny, Big Unknown. Nanotechnology may revolutionize our lives." published in the Los Angeles Times, June 1st 2006.

Invited expert: World Health Organization (WHO) expert panel re-evaluation of human and mammalian toxic equivalency factors (TEFs) for dioxins and dioxin-like compounds, Geneva, 2005.

Invited peer reviewer for the Ontario Ministry of the Environment's technical report on "Interim Toxicological Reference Values (TRVs) for Polychlorinated Biphenyls (PCBs) and Dioxin-like Compounds", 2005

Invited expert panelist: National Research Council, Committee on Emerging Issues and Data on Environmental Contaminants, Workshop on Application of Genomic Signatures, Oregon, December 2005

Invited External Advisory Board member— Michigan State University Superfund Basic Research Program. 2005-2009.

Invited member of External Advisory Board for the UNC-CH program grant entitled "Bioengineering partnership to improve chemical hazard testing paradigms." 2005-2009

Invited participant: ILSI-HESI workshop on "Improving the use of quantitative pharmacokinetic methods to determine dosimetry for evaluating human health risks", Research Triangle Park, December 2005.

Invited workshop participant, RAND corporation workshop on Nanotechnology and Occupational Health and Safety, Washington, DC, 2005

Invited peer reviewer for Cancer Research UK fellowship application, 2005.

Invited peer reviewer for grant submissions to the Wisconsin Sea Grant Institute, 2005.

Interviewed for an article titled "When nanopants attack" published by Wired News, June 2005.

Invited expert; European Food Safety Authority (EFSA) Scientific Colloquium: Methodologies and principles for setting tolerable intake levels for dioxins, furans and dioxin-like PCBs, Brussels, Belgium, June 2004

Invited roundtable panelist; "Is It Time to Reevaluate the Toxic Equivalency Factors For PCDDs, PCDFs, and Dioxin-Like PCBs?" Dioxin 2004 Conference, Berlin, Germany, September 2004.

Invited workshop participant “HESI Nanomaterial Safety Subcommittee Scoping meeting”, Washington June 2004.

Invited roundtable panelist; “Nanotechnology” NIEHS leadership retreat, Greensboro, May 2004

Interviewed for and quoted in an article titled “Yushchenko will feel poison's effects for years” published in the International Herald Tribune, Dec 27th 2004, dealing with dioxin poisoning.

Interviewed for and quoted in an article titled “Nanotechnology: Looking As We Leap” published in the September 2004 issue of Environmental Health Perspectives (Vol 112, Number 13).

Interviewed for and quoted in an article titled “Toxicogenomics Data: The Road to Acceptance” published in the August 2004 issue of Environmental Health Perspectives (Vol 112, Number 12).

Invited participant; Society of Toxicology Expert Panel Workshop: “Risk Assessment of Mixtures: Development of Testable Hypotheses”, Atlanta, GA, September 2002

Invited workshop participant and breakout group chairperson; “Virtual Body Workshop; Human biology models for environmental health effects” NIEHS June 2000.

Invited Presentations/Lectures

2014

- 1) Scholars Connect Program Seminar, NIEHS. “Overview of Research and Testing in the US National Toxicology Program.” January 2014
- 2) EPA Nanomaterials Research Planning Meeting, RTP, NC, “NTP activities on Nanomaterials”. February 2014

2013

- 3) The Toxicology Forum; 38th Annual Winter meeting, Washington DC. “The Cancer Bioassay: An NTP perspective.” January 2013
- 4) Society of Toxicology Annual Meeting, San Antonio, TX. “Overview of concepts and strategies needed for assessing the safety of nanoscale materials.” March 2013
- 5) Society of Toxicology Annual Meeting, San Antonio, TX. “Supervisors, Mentors, and Yodas: A perspective on their role in your career development.” March 2013
- 6) XIII International Congress of Toxicology, Seoul, South Korea. “Overview of Research and Testing in the US National Toxicology Program.” July 2013
- 7) KNTP-USNTP Joint Symposium, MFDS, Osong, South Korea “Ongoing research on herbal medicines and the safety of nanomaterials.” July 2013
- 8) GlaxoSmithKline Nanotechnology and Nanotoxicology Symposium, Research Triangle Park, NC, USA “Nanotoxicology: Assessing the Safety of Engineered Nanoscale Materials.” November 2013
- 9) Council for Responsible Nutrition/Natural Products INSIDER Webinar. “Overview of the National Toxicology Program activities on dietary supplements.” December 2013

2012

- 10) Society of Toxicology Annual Meeting, San Francisco, CA. “Selling your Science up the Food Chain: Tips on communicating your science to upper management.” March 2012
- 11) Council for Responsible Nutrition webinar. “Overview of the National Toxicology Program: dietary supplements” , May 2005
- 12) National Center for Toxicological Research, Scientific Advisory Board Meeting, Jefferson, AK “ Overview of National Toxicology Program Activities: Current and Future Collaborations.” , November 2012

2011

- 13) North Carolina Society of Toxicology Annual Meeting, RTP, NC. "Nanotoxicology: Assessing the Safety of Nanomaterials." February 2011
- 14) NIEHS Laboratory of Toxicology and Pharmacology Retreat, RTP, NC. "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials." February 2011
- 15) NC Society of Women Environmental Professionals/Sigma-Xi Nanotechnology Mythbusters Panel, Research Triangle Institute, RTP, NC. "Nanotoxicology". March 2011
- 16) Society of Toxicology Annual Meeting, Washington DC. "Minimum material characterizations for nanotoxicology studies: A necessity or a nuisance?" March 2011
- 17) US-EU Workshop Bridging Nano EHS efforts-A joint workshop, Washington DC, USA. "NIEHS and NTP Activities Evaluating the Safety of Nanoscale Materials". March 2011
- 18) NCTR Scientific Advisory Board NanoCore Subcommittee Meeting, Jefferson, AK. "NIEHS and NTP Activities Evaluating the Safety of Nanoscale Materials". August 2011
- 19) NORA Manufacturing Sector Conference: Partnerships to Improve Occupational Safety and Health. Cincinnati, OH. "The National Toxicology Program (NTP): Priorities and Partnerships for Cancer Research" September 2011
- 20) Introduction to Nanotechnology Science and Regulation at FDA, White Oak, Maryland, USA "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials" September 2011
- 21) COIN Nano&Bio Roundtable: An Ounce of Prevention: Developing Safe Nanomaterials For Commercial Use, East Carolina Heart Institute, Greenville, NC "Nanotoxicology: Assessing the Safety of Engineered Nanomaterials" September 2011.
- 22) International Toxicology of Mixtures Conference, Arlington, VA. "Mixtures Research and the NIEHS and NTP; An Evolving Program." October 2011.
- 23) NIH Botanical Research Centers meeting, Winston Salem, NC; "National Toxicology Program studies evaluating the safety of dietary supplements".

2010

- 24) North Carolina State University, Raleigh, NC "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials".
- 25) Oak Ridge National Laboratory, Oak Ridge, TN. "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials".
- 26) 30th International Symposium on Halogenated Persistent Organic Pollutants (Dioxin 2010), San Antonio, TX. "Assessing the cumulative effects of mixtures: Lessons learned from the NTP chronic bioassays of mixtures of dioxins and PCBs."
- 27) Karolinska Institutet, Stockholm, Sweden, "A 21st century Paradigm for assessing the Health Hazards of Engineered Nanomaterials".
- 28) SRA International Brown Bag Seminar, RTP, NC. "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials".
- 29) Society of Nuclear Medicine, 4th Annual Molecular Imaging Summit: Nanomedicine and Molecular Imaging, Albuquerque, NM; "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials."
- 30) Society of Toxicology Annual Meeting, Salt Lake City, UT. "NTP activities assessing the safety of dietary supplements and herbals medicines."
- 31) Society of Toxicology Annual Meeting, Nanotoxicology Specialty Section Debate, Salt Lake City, UT. "Nanotoxicology publications should be required to include a specified set of minimum material characterizations".

2009

- 32) Society of Risk Analysis Annual Meeting, Baltimore MD; "The Toxicology of Fullerenes: Current Efforts at the National Toxicology Program."
- 33) Society of Toxicology of Canada Annual Meeting, Montreal, Canada; "Assessing the cumulative effects of mixtures: Lessons learned from NTP chronic bioassays of mixtures of dioxins and PCBs."
- 34) 2009 Environmental Health Summit, Research Triangle Park, NC; "Current knowledge on nanomaterial toxicity: Implications for assessing product safety at the end of the life-cycle."
- 35) NIEHS Engineered Nanomaterials Grand Opportunity Grantee Meeting, Research Triangle Park, NC; "Current NTP efforts on ENMs Health and Safety"
- 36) 46th Congress of the European Societies of Toxicology (EUROTOX 2009), Dresden, Germany; "SOT-EUROTOX debate, Nanotoxicology: Is it much ado about nothing?"
- 37) International Conference on Nanotechnology for the Forest Products Industry, Edmonton, Canada; "Current knowledge on nanomaterial toxicity."
- 38) Society of Toxicology Annual Meeting, Baltimore, MD; "SOT-EUROTOX debate, Nanotoxicology: Is it much ado about nothing?"
- 39) American Society of Safety Engineers (ASSE) meeting, Cary, NC; "Industrial Safety in Nanotechnology"
- 40) University of North Carolina at Chapel Hill, Curriculum in Toxicology TOXC/ENVR 722 seminar; "The Health Risks of Nanotechnology: A big issue in a small world."

2008

- 41) North Carolina Nanotechnology Safety and Response Seminar, Sanford, NC. "Industrial Safety in Nanotechnology"
- 42) 2008 Priester Conference Participant Meeting, NIEHS, NC. "The National Toxicology Program (NTP): Better Science for Better Decisions"
- 43) Science Communicators of North Carolina Meeting, NIEHS, NC. "NIEHS activities on Nanotechnology: Nanoscale Science and Toxicology"
- 44) National Research Council Committee on the Health Risks of Phthalates, Washington DC. "Rationale Used in Cumulative Risk Assessment: Dioxins, A Case Study"
- 45) Business Environmental and Safety Training (BEST) Conference, Raleigh, NC "Current knowledge on nanomaterial toxicity"

2007

- 46) U.S. Food and Drug Administration Annual Science Symposium, Washington, DC. "Current knowledge on nanomaterial toxicity."
- 47) University of North Carolina, Lineberger Comprehensive Cancer Center Seminars, Chapel Hill, NC "Assessing the health risks of Nanotechnology: A big issue in a small world."
- 48) USEPA Interagency Workshop on the Environmental Implications of Nanotechnology, Washington DC. "NIEHS activities on Nanotechnology: Nanoscale Science and Toxicology."
- 49) Second Annual International Food Nanotechnology Conference, Chicago, IL. "Nanotechnology Safety Initiative of the NIEHS and the National Toxicology Program."
- 50) American Association for Pharmaceutical Scientists Annual National Biotechnology Conference, San Diego, CA. "Assessing the health risks of Nanotechnology: A mega-issue in a nano-world."

- 51) NIEHS Public Interest Group Webinar, NIEHS, Research Triangle Park, NC. "National Toxicology Program Nanotechnology Safety Initiative".
- 52) Society of Toxicology Annual Meeting Roundtable: Chemical mixtures: is the problem solvable?, Charlotte, NC. "How can pharmacokinetic and pharmacodynamic modeling be used to understand observed interactions?"
- 53) The Toxicology Forum 32nd Annual Winter Meeting, Washington DC. "The National Toxicology Program's Nanoscale Materials Research and Testing Program"
- 54) University of Illinois at Chicago, Laboratory for Molecular Biology, Chicago, IL. "'Assessing the health risks of Nanotechnology: A big issue in a small world."
- 55) Superfund Basic Research Program/EPA Risk-e-Learning Web Seminar Series, Research Triangle Park, NC. "Nanotechnology and toxicology: an overview"

2006

- 56) Carolina Center of Cancer Nanotechnology Excellence 1st Annual Symposium on Cancer Nanotechnology, Chapel Hill, NC. "Evaluating the safety of engineered nanoscale materials."
- 57) American College of Toxicology Annual Meeting, Indian Wells, CA. "NIEHS Efforts to Evaluate the Human Health Hazards Associated with Exposure to Nanomaterials".
- 58) USEPA Seminar series, Research Triangle Park, NC. "National Toxicology Program activities evaluating the safety of nanoscale materials."
- 59) ILSI-Health and Environmental Sciences Institute (HESI), Washington DC. "Nanomaterial Risk Evaluation Activities at the National Institute of Environmental Health Sciences".
- 60) National Institute for Occupational Safety and Health, Morgantown, WV: "National Toxicology Program activities evaluating the safety of nanoscale materials."
- 61) FDA National Center for Toxicological Research-Toxicology Study Selection and Review Committee, Jefferson AK: "Tumorigenicity of Nanoscale TiO₂ in Tg:AC Transgenic Mice".
- 62) Mid-Atlantic Chapter of the Society of Toxicology Webinar; "Evaluation of toxicity of nanoscale materials: Strategies, study design and interpretation".
- 63) National Toxicology Program Nanotechnology Working Group public meeting. Washington, DC.
- 64) US Measurement System Workshop on the Measurement and Standards Needs in Nanobiotechnology, Houston, TX; "National Toxicology Program activities evaluating the safety of nanoscale materials."

2005

- 65) National Capital Area Chapter of the Society of Toxicology Fall Symposium on Biological, Toxicological, and Regulatory Assessment of Nano-Materials, Washington DC; "National Toxicology Program Activities Evaluating the Safety of Nano-scale Materials."
- 66) Symposium on Nanoscale Science & Engineering: Convergence of the Top Down and Bottom Up Approaches, University of North Carolina - Charlotte, Charlotte, NC. "Evaluating the safety of nanoscale materials: Current challenges and future directions."
- 67) 2nd International Symposium on Nanotechnology and Occupational Health, Minneapolis, MN; "National Toxicology Program Activities Evaluating the Safety of Materials Produced Through Nanotechnology."
- 68) Molecular and Environmental Toxicology Center, University of Wisconsin, Madison, WI; "Evaluating Dose Additivity for Toxicity and Carcinogenicity of Mixtures of Dioxins and Polychlorinated Biphenyls."
- 69) National Forum on Contaminants in Fish, Baltimore, MD; "Overview of National Toxicology Program Studies of Interactions Between Individual PCB Congeners."
- 70) National Toxicology Program Nanotechnology Working Group public meeting. RTP, NC.

- 71) National Academy of Sciences, National Research Council, Third Meeting of the Committee on EPA's Exposure and Human Health Reassessment of TCDD and Related Compounds. Washington DC; "The National Toxicology Program Dioxin/PCB Cancer Bioassays: Evaluation of Dose-Response Relationships and Dose-Additivity for Dioxin-Like Compounds."
- 72) Society of Toxicology Annual Meeting, New Orleans; Roundtable speaker "Conducting a Comprehensive Toxicological and Safety Evaluation of Nanomaterials: Current Challenges and Data Needs"
- 73) Society of Toxicology Annual Meeting, New Orleans; Workshop on Dose additivity of mixtures, New Orleans; "Testing the Toxic Equivalency Factor (TEF) hypothesis: The NTP Dioxin/PCB Cancer bioassays."
- 74) NIBIB/DOE Workshop on Biomedical Applications of Nanotechnology, Washington DC; "Evaluating the Safety of Materials Produced Through Nanotechnology"
- 75) Toxicology Forum meeting, Washington DC. "Dose-Additivity modeling applied to the new NTP dioxin cancer bioassays."
- 76) USEPA Workshop "Representations of Dose-Response Relationships for Chemicals Associated with Non-Cancer Effects and Their Policy Implications." Oakland CA; "Dose response modeling of animal results for dioxin."

2004

- 77) American Chemistry Council CHEMSTAR Nanotechnology Workshop, Washington DC; "Evaluating the safety of materials produced through nanotechnology: A big issue in a small world"
- 78) University of North Carolina at Charlotte Biotechnology symposium; "Evaluating the safety of materials produced through nanotechnology: A big issue in a small world"
- 79) 24th International Symposium on Halogenated Environmental Organic Pollutants and POPs (Dioxin 2004), Berlin, Germany; "Carcinogenicity of individual and a mixture of dioxin-like compounds in female Harlan Sprague Dawley rats."
- 80) 24th International Symposium on Halogenated Environmental Organic Pollutants and POPs(Dioxin 2004) , Berlin, Germany; "Implications and findings of the National Toxicology Program (NTP) TEF Studies."
- 81) Polychlorinated Biphenyls (PCB) Workshop, University of Illinois at Champagne; "Evaluating dioxin Toxin Equivalency Factors (TEFs) for the carcinogenicity of dioxins and PCBs in rodents."
- 82) Polychlorinated Biphenyls (PCB) Workshop, University of Illinois at Champagne; "Cardiotoxicity in rats following chronic exposure to dioxins and PCBs."
- 83) ILSI-HESI workshop on the human relevance of rodent liver tumors, Research Triangle Park; "Chronic toxicity and carcinogenicity of dioxin-like compounds in female Harlan Sprague-Dawley rats"

2003

- 84) NIEHS microarray user group seminar series; "Ah-receptor activated signaling pathways." 2003

2002

- 85) International Symposium on Endocrine Disruptors, National Institute of Toxicological Research, Seoul, South Korea; "Dioxins: Toxicology and Risk Assessment" 2002
- 86) Seoul National University, Seoul, South Korea; "Gene expression profiling in rat liver after subchronic exposure to dioxin." 2002
- 87) Catholic University of Daegu, Daegu, South Korea; "Gene expression profiling in rat liver after subchronic exposure to dioxin." 2002

1998-2000

- 88) NIEHS microarray user group seminar series; "Gene expression profiling in rat liver after subchronic exposure to dioxin." 2000

- 89) Workshop on Recent Advances in the Environmental Toxicology and Health Effects of PCBs, Lexington, Kentucky; "The National Toxicology Program Dioxin TEF study: Chronic carcinogenicity studies to evaluate toxic equivalency factors for dioxins and PCBs." 2000
- 90) Laboratory of Molecular Carcinogenesis seminar series, NIEHS; "Quantitative analysis of dioxin-induced gene expression." 2000
- 91) National Toxicology Program Advisory Committee on Alternative Toxicological Methods, NIEHS; "Real Time and Quantitative PCR" 2000
- 92) NIEHS DIR-retreat, Southern Pines; "Real Time and Quantitative PCR" 2000
- 93) 19th International Symposium on Halogenated Environmental Organic Pollutants and POPs, Venice, Italy; "Mechanisms of dioxin-induced hepatocarcinogenesis in rats." 1999
- 94) Symposium on Carcinogenesis Modeling and Risk Assessment, Park City, Utah; "Comparative dose-metrics for changes in cell proliferation and gene expression in female Sprague-Dawley rat liver following chronic exposure to dioxin." 1998

Awards/Notable achievements

NIEHS Directors Award of Merit: (The NIH Merit Awards are the highest level Honor Awards an NIH institute Director can grant to recognize achievements of staff.)

2013- "For superb teamwork in development and management of a program of research addressing the health impacts of engineered nanomaterials."

2008- "For highly significant scientific and technical contributions to the implementation of the realignment of the National Toxicology Program."

2007- "For highly significant scientific and technical contributions to the analysis and reporting of the NTP studies of sodium dichromate dihydrate, a "hexavalent chromium" compound."

2004- "For highly significant scientific and technical contributions to the analysis and reporting of the NTP "dioxin-like chemicals" TEF initiative.

NIEHS Performance based cash award: 2007, 2008, 2009, 2010, 2011, 2012

NIEHS Staff Recognition Award, 2003, 2005

NIEHS Group Cash award, 2008, 2012

NIEHS Time-Off Award, 2006, 2012, 2013

Society of Toxicology (SOT) awards:

"Best Paper Demonstrating the Application of Risk Assessment for 2005", awarded by the Risk Assessment Specialty Section (RASS) at the Society of Toxicology Annual meeting 2006; Walker et al (2005) Environ. Health Perspect. 113, 43-48.

"Best Paper Advancing the Science of Risk Assessment for 2004", awarded by the Risk Assessment Specialty Section (RASS) at the Society of Toxicology Annual meeting 2005; Toyoshiba et al (2004). Environ Health Perspect 112, 1217-1224.

Risk Assessment Specialty Section, graduate student mentor award, 2002.

NIH Fellows Award for Research Excellence (FARE), 1997.

National Research Service Award (NRSA) ES05655, NIH, 1994.

Scientific Community Activities

Chairperson: Society of Toxicology Annual Meeting, March 2013. "Symposium: From immunotoxicity to nanotherapy: the effects of nanomaterials on the immune system".

Chairperson; Society of Toxicology Annual Meeting, March 2013. "Session: Toxicity of nanoparticles: cerium oxide". Society of Toxicology Annual Meeting, March 2013.

Society of Toxicology; Current Concepts in Toxicology Conference Committee Member, 2012-2013

Society of Toxicology Nanotoxicology Specialty Section, Councilor 2009-2011; founding organizing committee member, 2007-2008.

Ad hoc reviewer for four academic/federal researcher promotion/tenure packages: (2009-2011)

Planning Committee and breakout group rapporteur; Research Triangle Environmental Health Collaborative's Summit "Environmentally Responsible Development of Nanotechnology", Research Triangle Park, NC, October 2009

Member of workshop organizing committee and participant; "Ensuring appropriate material characterization in nano-toxicity studies" (Oct 2008, Washington DC)

Workshop co-organizer, presenter and breakout group chair for Society of Risk Analysis workshop on risk of nanomaterials (Sept 2008, Washington DC)

Symposium Co-organizer: "Nanomaterial pharmacokinetics and pharmacokinetics modeling: Where we are and where do we need to go?", Society of Toxicology Annual Meeting 2008.

Organizing committee; Interagency Workshop on Standards for Toxicity Testing and Risk Assessment of Nanomaterials. Gaithersburg, MD. September 2007

North Carolina Society of Toxicology; Past-President (2006), President (2005), President-elect (2004), Vice President (2003)

Symposium Co-organizer, North Carolina Society of Toxicology Annual Meeting 2006.

Chairperson; Persistent Organic Pollutants Poster session, Society of Toxicology Annual meeting, March 2006.

Symposium Organizer; "North Carolina Society of Toxicology Spring Meeting- Implications of Nanotechnology for Toxicologists", 2005.

Co-Chairperson; Symposium; "Mechanisms of cardiovascular toxicity by 2,3,7,8-tetrachlorodibenzo-p-dioxin and related halogenated aromatic hydrocarbons." Society of Toxicology Annual meeting, March 2004.

Chairperson; TCDD, Poster session, Society of Toxicology Annual meeting, March 2004.

Society of Toxicology Committee on Public Communications; member, 2002-2003

Symposium Organizer; "North Carolina Society of Toxicology Fall Meeting-Allergic Sensitization and Childhood Asthma", 2003

Chairperson; Role of Environmental Agents in Cardiovascular Disease. Poster session, Society of Toxicology annual meeting, March 2003.

Chairperson; Global profiling. Poster session, Society of Toxicology annual meeting, March 2002.

Chairperson; TCDD III Poster session, Society of Toxicology annual meeting, March 2001.

Chairperson; TCDD Poster session, Society of Toxicology annual meeting, March 2000.

NIEHS representative for US congressional staff briefings, and scientific peer review meetings for the US EPA's Health Assessment of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and related compounds, June-November 2000.

National Toxicology Program Activities

Project Officer. Interagency Agreement between NIEHS and FDA/NCTR (2007-present.). This IAG supports toxicology studies on FDA-regulated agents nominated to the NTP, and conducted at the FDA's National Center for Toxicological Research.

NIEHS Workshop Organizing committee; "Advancing Research on Mixtures; New Perspectives and Approaches for Predicting Adverse Human Health Effects" Chapel Hill, NC, 2011

Chairperson, National Toxicology Program Toxicogenomics faculty, 2003-2011.

Chairperson, NTP Management Committee 2007-2009.

Chairperson, NTP Concept Review Group, 2007- 2009.

Member of Pharmacokinetic Modeling Oversight Group that coordinates NTP PBPK modeling activities. 2005-2007

Member of the NTP Concept Review Group, 2005-2007.

NTP workshop Rapporteur: "Hormonally-induced reproductive tumors: relevance of rodent bioassays", Raleigh, NC, 2006.

NTP Workshop Organizing committee and session chair; "Developing Experimental Approaches for the Evaluation of Toxicological Interactions of Nanoscale Materials" University of Florida, 2004

NIEHS Working Group member for development of the NTP vision for the 21st Century, 2004.

Member of NTP study design teams for the evaluation of the chronic toxicity/carcinogenicity of numerous NTP priority nominations. 1995-present.

Lead Scientist for the NTP Nanotechnology Safety Initiative. This is a broad-based research program to address potential human health hazards associated with the manufacture and use of nanoscale materials including evaluations of cadmium based quantum dots, titanium dioxide, fullerene C60 and multiwalled carbon Nanotubes.

Lead Scientist for the Dioxin Toxic Equivalency Factor (TEF) Evaluation: A series of studies for the evaluation of relative potency factors for the carcinogenicity of dioxin-like compounds in female rats.

Lead Scientist for studies on relative potency factors for the skin carcinogenicity of dioxin-like compounds in Tg.AC transgenic mice.

Lead Scientist for toxicogenomic studies evaluating relative potencies of microcystins that are common algae toxins found in contaminated surface waters.

NIH and NIEHS Service Activities

NIEHS Risk Management Committee Member 2013-present

NIEHS Committee on Promotions II: Member, 2006-present; Chairperson, 2012-present.

NIEHS Annual Awards Ceremony emcee; 2009, 2011

NIEHS Technology Evaluation Advisory Committee (TEAC) 2008-2013

Search committee member for recruitment of Branch Chief, Toxicology Branch, 2009.

Subject Matter Expert for review of candidates for recruitment of GS-15 Toxicologist, Toxicology Branch, 2009.

Subject Matter Expert for review of candidates for recruitment of GS-14 Computational Toxicologist, Program Operations Branch, 2009

Member of NIEHS OMA organizational climate committee, 2008

Concept Review Group member for ILS contract study of carbon nanotubes, 2007.

NIEHS Human studies Institutional Review Board (IRB), 2003-2007.

NIEHS Animal Care and Use Committee, 2003-2007.

NIEHS Quality Council; Chairperson, 2003-2004.

NIEHS Assembly of Scientists, Councilor, 2001-2003.

National Center for Toxicogenomics ToxPath team, 1999-2005.

Member of Concept Review Group for ILS contract study of quantum dots (2005).

Contract Peer reviewer: Whole Genome Sequencing of Inbred Mouse Strains (December 2003).

Academic activities:

Adjunct Associate Professor, University of North Carolina at Chapel Hill, Curriculum in Toxicology (2008-present).

Adjunct Assistant Professor, University of North Carolina at Chapel Hill, Curriculum in Toxicology (2001-2008).

Doctoral Thesis Committee member, Lina Gao, University of North Carolina Chapel Hill, NC, 2009-2011.

Doctoral Thesis Committee member, Josh Harrill, UNC Curriculum in Toxicology, University of North Carolina Chapel Hill, NC, 2005-2008

Mentoring activities:

NIEHS Participant in Junior Leadership Durham, a local program enabling high school students to interact with business, community and government leaders to gain an in-depth knowledge of Durham and to encourage them to explore ways in which they can contribute to their community. 2013, 2014

Nanotoxicology Specialty Section Mentor-Mentee lunch program. Society of Toxicology Annual Meeting, 2012, 2014.

Expert participant: Chat With An Expert Program; Society of Toxicology Annual Meeting, March 2013.

“Poster Discussion Tour” leader for the SOT Postdoctoral Assembly. Society of Toxicology Annual Meeting 2012.

Postdoctoral research mentor; Jeanelle Martinez, 1999 – 2005,

Current Position: Toxicologist, US EPA. NIH Fellows Award for Research Excellence, 2001; NIH Fellows Award for Research Excellence, 2003; NCSOT Presidents Award for Research Competition winner, 2003; AACR Scholar in training award, 2004

Graduate student mentor; Amy Kim, Graduate student, 1997 – 2002: Awarded Ph.D. 2002. UNC Curriculum in Toxicology. Current position-Toxicologist, Genetech, CA. Society of Risk Analysis graduate student award, 2000; NC Society of Toxicology graduate student award, 2001; Society of Risk Analysis student travel award, 2001; NC Society of Toxicology graduate student merit award, 2002; Society of Toxicology Risk Assessment Section award, 2002.

Graduate student mentor; Michael Wyde, Graduate student, 1996 – 2000: Awarded Ph.D. 2000. UNC Curriculum in Toxicology. Current position: Toxicologist, National Toxicology Program, NIEHS, RTP, NC;

Summer student mentor; Anika Alfred, 1998, UNC Curriculum in Toxicology; Monique Richards, 2003, UNC Curriculum in Toxicology

NIEHS Summers of Discovery Mentor. 1997, 1999, 2001

Host Scientist: “North American–Russian Project: Uniting To Reduce Levels Of Persistent Organic Pollutants (POPs) In Human Beings And The Environment”, 1999.

Scientific journal activities

Editorial Board:

Toxicology and Applied Pharmacology (2007-present, renewed term in 2010)
Environmental Health Perspectives (2008-2012)

Ad hoc peer-reviewer:

Advanced Functional Materials
Carcinogenesis
Chemosphere
Critical Reviews in Toxicology
Environmental Health Perspectives
Journal of Biochemical and Molecular Toxicology
Journal of Exposure Analysis and Environmental Epidemiology
Mechanisms of Ageing and Development
Nanoletters
Nanomedicine
Nanotechnology
Particle Fibre and Toxicology
Regulatory Toxicology and Pharmacology
Toxicology
Toxicology Letters
Toxicologic Pathology
Toxicological Sciences
Toxicology and Applied Pharmacology

Professional Society memberships:

Society of Toxicology.
Society of Toxicology, North Carolina Chapter.
American Association for the Advancement of Science.

Bibliography

Peer Reviewed Publications

Peer-reviewed Journal Articles

Web of Science Researcher ID: D-6583-2012

h-index: 24

2008-present

- 1) Smith MJ, Brown JM, Zamboni WC, and **Walker NJ**. (2014) Symposium Overview. From Immunotoxicity to Nanotherapy: The Effects of Nanomaterials on the Immune System. *Toxicol Sci.* 138, 249-255. PMID: 24431216
- 2) Levine KE, Han L, McWilliams AC, Essader AS, Amato KE, Fernando RA, Browning DB, Greene LC, Ensor DS, **Walker NJ**, Robinson VG and Collins BJ. (2014) Characterization of an assortment of commercially available multiwalled carbon nanotubes. *Microchim Acta* 181, 171–179
- 3) Budinsky RA, Schrenk D, Simon T, Van den Berg M, Reichard JF, Silkworth JB, Aylward LL, Brix A, Gasiewicz T, Kaminski N, Perdew G, Starr TB, **Walker NJ**, and Rowlands J.C. (2014) Mode of action and dose-response framework analysis for receptor-mediated toxicity: the aryl hydrocarbon receptor as a case study. *Crit Rev Toxicol.* 44, 83-119, PMID: 24245878
- 4) Schug TT, Heindel JJ, Camacho L, Delclos KB, Howard P, Johnson AF, Aungst J, Keefe D, Newbold R, **Walker NJ**, Thomas Zoeller R, Bucher JR. (2013) A new approach to synergize academic and guideline-compliant research: The CLARITY-BPA research program. *Reprod Toxicol.* 40, 35-40. PMID: 23747832
- 5) Lauby-Secretan B, Loomis D, Grosse Y, El Ghissassi F, Bouvard V, Benbrahim-Tallaa L, Guha N, Baan R, Mattock H, Straif K; International Agency for Research on Cancer Monograph Working Group-Cogliano VJ, Aronson K, Tryphonas H, Guo YL, Machala M, Bonfeld-Jørgensen EC, Vorkamp K, Cravedi JP, Le Bizec B, Narbonne JF, Esch H, Cocco P, Merletti F, Vermeulen R, Agudo A, Johansson N, Fiedler H, Hopf N, Glauert HP, Herbert RA, James MO, Ludewig G, Robertson L, Ruder A, **Walker N**. (2013) *Lancet Oncol.* 4, 287-8
- 6) Schug TT, Johnson AF, Balshaw DM, Garantzotis S, **Walker NJ**, Weis C, Nadadur SS, Birnbaum LS. (2013) ONE Nano: NIEHS's Strategic Initiative on the Health and Safety Effects of Engineered Nanomaterials. *Environ Health Perspect.* 121, 410-414. PMID: 23407114
- 7) Rider, C.V., Carlin, D.J., DeVito, M.J., Thompson, C.L. and , and **Walker, N.J.** (2013) Mixtures Research at NIEHS: An Evolving Program. *Toxicology* 313, 94-102, PMID: 23146757
- 8) Hooth MJ, Nyska A, Fomby LM, Vasconcelos DY, Vallant M, Devito MJ, **Walker NJ**. (2012) Repeated dose toxicity and relative potency of 1,2,3,4,6,7-hexachloronaphthalene (PCN 66) 1,2,3,5,6,7-hexachloronaphthalene (PCN 67) compared to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) for induction of CYP1A1, CYP1A2 and thymic atrophy in female Harlan Sprague-Dawley rats. *Toxicology* 301, 85-93; PMID: 22813907
- 9) Hussain S, Al-Nsour F, Rice AB, Marshburn J, Yingling B, Ji Z, Zink JI, **Walker NJ**, Garantzotis S. (2012) Cerium dioxide nanoparticles induce apoptosis and autophagy in human peripheral blood monocytes. *ACS Nano.* 6,5820-9; PMID: 22717232
- 10) Hussain, S, Al-Nsour, F., Rice, A.B., Marshburn, J., Ji, Z., Zink, J.I., Yingling, B., **Walker, N.J.** and Garantzotis S. (2012) Cerium dioxide nanoparticles do not modulate the lipopolysaccharide-induced inflammatory response of human monocytes. *Int J. Nanomed* 12, 1387-1397; PMID: 22457596
- 11) Satoh M, Chan EK, Ho LA, Rose KM, Parks CG, Cohn RD, Jusko TA, **Walker NJ**, Germolec DR, Whitt IZ, Crockett PW, Pauley BA, Chan JY, Ross SJ, Birnbaum LS, Zeldin DC, Miller FW. (2012) Prevalence and sociodemographic correlates of antinuclear antibodies in the United States. *Arthritis Rheum.* 64, 2319-27; PMID: 22237992
- 12) Pandiri, A.R., Sills, R.C., Hoenerhoff, M.J., Peddada, S.D., Ton, T.T., Hong, H.L., Flake, G.P., Malarkey, D.E., Olsen, G.R., Pogribny, I.P, **Walker, N.J.**, and Boudreau, M.D. (2011) Aloe vera Non-Decolorized Whole Leaf Extract-Induced Large Intestinal Tumors in F344 Rats Share Similar Molecular Pathways with Human Sporadic Colorectal Tumors. *Toxicol Pathol*, 39, 1065-1074

- 13) Silbergeld, E.K., Contreras, E.Q., Hartung, T., Hirsch, C., Hogberg, H., Jachak, A.C., Jordan, W., Landsiedel, R., Morris, J., Patri, A., Pounds, J.G., de Vizcaya Ruiz, A., Shvedova, A., Tanguay, R., Tatarazako, N., van Vliet, E., **Walker, N.J.**, Wiesner, M., Wilcox, N., and Zurlo, J. (2011). t4 workshop report: Nanotoxicology: "the end of the beginning" – Signs on the roadmap to a strategy for assuring the safe application and use of nanomaterials. *ALTEX* 28(3), 236-241
- 14) Abdel-Rahman, A., Anyangwe, N., Carlacchi, L., Casper, S., Danam, R.P., Enongene, E., Erives, G., Fabricant, D., Gudi, R., Hilmas C.J., Hines, F., Howard, P., Levy, D., Lin, Y., Pfeiler, E., Thurmond, T.S., Turujman, S, and **Walker, N.J.** (2011) The Safety and Regulation of Natural Products Used as Foods and Food Ingredients. *Toxicol. Sci.* 123, 333-348
- 15) Frawley R, White KJ Jr, Brown R, Musgrove D, **Walker N**, Germolec D. (2011) Gene expression alterations in immune system pathways in the thymus after exposure to immunosuppressive chemicals. *Environ Health Perspect.* 119, 371-
- 16) Auerbach, S.S., Shah, R.R., Mav, D., Smith, C.S., **Walker, N.J.**, Vallant, M.K., Boorman, G.A., and Irwin, R.D. (2010) Predicting the hepatocarcinogenic potential of alkenylbenzene flavoring agents using toxicogenomics and machine learning. *Toxicol Appl. Pharmacol* 243, 300-14
- 17) Yoshizawa, K, **Walker, N.J.**, Nyska, A., Kissling, G.E., Jokinen, M.P., Brix, A.E., Sells, D.M., and Wyde, M.E. (2010) Thyroid Follicular Lesions Induced by Oral Treatment for Two Years with 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-like Compounds in Female Harlan Sprague-Dawley Rats. *Toxicol Pathol* 38, 1037-50.
- 18) Yoshizawa, K, Brix, A, Sells, D.M., Jokinen, M.P, Wyde, M.E., Orzech, D., Kissling, G.E., **Walker, N.J.** and Nyska, A. (2009) Reproductive lesions in female Harlan Sprague-Dawley rats following two-year oral treatment with dioxin and dioxin-like compounds. *Toxicol Pathol* 37, 921-37
- 19) Gopee NV, Roberts DW, Webb P, Cozart CR, Siitonen PH, Latendresse JR, Warbritton AR, Yu WW, Colvin VL, **Walker NJ**, Howard PC. (2009) Quantitative Determination of Skin Penetration of PEG-coated CdSe Quantum Dots in Dermabraded but not Intact SKH-1 Hairless Mouse Skin. *Toxicol Sci.* 111, 37–48
- 20) **Walker N.J.** and Bucher, J.R. (2009) A 21st century paradigm for evaluating the health hazards of nanoscale materials?" *Toxicol Sci.* 110, 251-4
- 21) Jeong, Y.C., **Walker, N.J.**, Burgin, D.E., Kissling, G., Gupta, M., Kupper, L., Birnbaum, L.S., and Swenberg, J.A. (2008) Accumulation of M(1)dG DNA adducts after chronic exposure to PCBs, but not from acute exposure to polychlorinated aromatic hydrocarbons. *Free Radic Biol Med.* 45, 585-91

2002-2007

- 22) Smith M.V., Miller, C.R., Kohn, M., **Walker, N.J.**, and Portier C.J., (2007) Absolute estimation of initial concentrations of amplicon in a real-time RT-PCR process *BMC Bioinformatics* 8:409
- 23) **Walker, N.J.**, Yoshizawa, K., Miller, R.A., Brix, A.E., Sells, D.M., Jokinen, M.P., Wyde, M.E., Easterling, M. and Nyska, A. (2007) Pulmonary Lesions in Female Harlan Sprague-Dawley Rats Following Two-Year Oral Treatment with Dioxin-like Compounds. *Toxicol Pathol* 35, 880-889
- 24) Yoshizawa, K., Heatherly, A., Malarkey, D.E., **Walker, N.J.** and Nyska, A. (2007) A critical comparison of murine pathology and epidemiological data of dioxins and PCBs. *Toxicol Pathol* 35, 865-879
- 25) Iida, M., Anna, C.H., Gaskin, N.D., **Walker, N.J.**, and Devereux, T.R. (2007) The putative tumor suppressor Tsc-22 is down-regulated early in chemically induced hepatocarcinogenesis and may be a suppressor of Gadd45b. *Toxicol Sci.* 99, 43-50.
- 26) Gopee, N.V., Roberts, D.W., Webb, P., Cozart, C.R., Siitonen, P.H., Warbritton, A.R., Yu, W.W., Colvin, V.L., **Walker, N.J.**, and Howard, P.C. (2007) Migration of intradermally injected quantum dots to sentinel organs in mice. *Toxicol Sci.* 98, 249-257
- 27) **Walker NJ.** (2007) Unraveling the complexities of the mechanism of action of dioxins. *Toxicol Sci.* 95, 297-9.
- 28) Sells, D.M., Brix, A.E., Nyska, A., Jokinen, M.P., Orzech, D.P., and **Walker, N.J.** (2007) Respiratory Tract Lesions in Non-Inhalation Studies. *Toxicol Pathol* 35, 170-177
- 29) **Walker, N.J.**, Wyde, M.E., Fischer, L.J., Nyska, A., and Bucher, J.R. (2006) Comparison of chronic toxicity and carcinogenicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in two-year bioassays in female Sprague-Dawley rats.

Mol. Nutr. Food Res. 50, 934-944.

- 30) Maynard, A.D, Aitken, R.J., Butz, T., Colvin, V., Donaldson, K., Oberdorster, G., Philbert, M.A., Ryan, J., Seaton, A., Stone, V., Tinkle, S.S., Tran, L., **Walker, N.J.**, and Warheit, D.B. (2006). Safe handling of nanotechnology, *Nature* 444, 267-269
- 31) Xie, A., **Walker, N.J.** and Wang, D. (2006) Dioxin (TCDD) enhances triggered-afterdepolarizations in rat ventricular myocytes, *Cardiovasc Toxicol* 6, 99-110
- 32) van den Berg, M., Birnbaum, L., Denison, M., De Vito, M., Farland, W., Feeley, M., Fiedler, H., Hakansson, H., Hanberg, A., Haws, L., Rose, M., Safe, S., Schrenk, D., Tohyama, C., Tritscher, A., Tuomisto, J., Tysklind, M., **Walker, N.**, and Peterson, R.E. (2006). The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. *Toxicol Sci.* 93, 223-241
- 33) Haws, L. C., Su, S. H., Harris, M., Devito, M. J., **Walker, N. J.**, Farland, W. H., Finley, B., and Birnbaum, L. S. (2006). Development of a refined database of mammalian relative potency estimates for dioxin-like compounds. *Toxicol Sci.* 89, 4-30
- 34) Martinez, J.M., Sali, T., Okazaki, R., Anna, C., Hollingshead, M., Hose, C., Monks, A., **Walker, N.J.** Baek, S.J., and Eling, T.E. Drug-induced expression of nonsteroidal anti-inflammatory drug-activated gene/macrophage inhibitory cytokine-1/prostate-derived factor, a putative tumor suppressor, inhibits tumor growth. *J. Pharmacol. Exp. Ther.* 318, 899-906
- 35) **Walker, N. J.**, Crockett, P., Nyska, A., Brix, A., Jokinen, M. P., Sells, D. M., Hailey, J. R., Easterling, M., Haseman, J. K., Yin, M., Wyde, M. E., Bucher, J. R., and Portier, C. J. (2005). Dose-additive carcinogenicity of a defined mixture of "dioxin - like compounds". *Environ Health Perspect* 113, 43-48
- 36) **Walker, N.J.** and Yang, J.H. (2005) Complexities in understanding the nature of the dose-response for dioxins and related compounds *Dose-Response*, 3, 267-272
- 37) Holsapple, M. P., Farland, W. H., Landry, T. D., Monteiro-Riviere, N. A., Carter, J. M., **Walker, N. J.**, and Thomas, K. V. (2005). Research Strategies for Safety Evaluation of Nanomaterials: Part 2, Toxicological and Safety Evaluation of Nanomaterials: Current Challenges and Data Needs. *Toxicol Sci.* 88, 12-17
- 38) Yoshizawa, K., Marsh, T., Foley, J. F., Cai, B., Peddada, S., **Walker, N. J.**, and Nyska, A. (2005). Mechanisms of Exocrine Pancreatic Toxicity Induced by Oral Treatment with 2,3,7,8-Tetrachlorodibenzo-p-dioxin in Female Harlan Sprague-Dawley Rats. *Toxicol Sci* 85,594-606.
- 39) Hailey, J. R., **Walker, N. J.**, Sells, D. M., Brix, A. E., Jokinen, M. P., and Nyska, A. (2005). Classification of proliferative hepatocellular lesions in Harlan Sprague Dawley rats chronically exposed to dioxin-like compounds. *Toxicol Pathol* 33,165-174
- 40) Brix, A. E., Nyska, A., Haseman, J. K., Sells, D. M., Jokinen, M. P., and **Walker, N. J.** (2005). Incidences of selected lesions in control female Harlan Sprague-Dawley rats from two-year studies performed by the National Toxicology Program. *Toxicol Pathol* 33, 477-483.
- 41) Nyska, A., Yoshizawa, K., Jokinen, M. P., Brix, A. E., Sells, D. M., Wyde, M. E., Orzech, D., Kissling, G. E., and **Walker, N. J.** (2005). Olfactory Epithelial Metaplasia and Hyperplasia in Female Harlan Sprague-Dawley Rats Following Chronic Treatment with Polychlorinated Biphenyls. *Toxicol Pathol* 33, 371-377
- 42) Yoshizawa, K., **Walker, N. J.**, Jokinen, M. P., Brix, A. E., Sells, D. M., Marsh, T., Wyde, M. E., Orzech, D., Haseman, J. K., and Nyska, A. (2005). Gingival Carcinogenicity in Female Harlan Sprague-Dawley Rats Following Two-Year Oral Treatment with 2,3,7,8-Tetrachlorodibenzo-p-Dioxin and Dioxin-Like Compounds. *Toxicol Sci.*83,64-77
- 43) Brix, A. E., Jokinen, M. P., **Walker, N. J.**, Sells, D. M., and Nyska, A. (2004). Characterization of bronchiolar metaplasia of the alveolar epithelium in female Sprague-Dawley rats exposed to 3,3',4,4',5-pentachlorobiphenyl (PCB126). *Toxicol Pathol* 32, 333-337.
- 44) Liu, J., **Walker, N.**, and Waalkes, M. P. (2004). Hybridization buffer systems impact the quality of filter array data. *J Pharmacol Toxicol Methods* 50, 67-71.

- 45) Martinez, J. M., Baek, S. J., Mays, D. M., Tithof, P. K., Eling, T. E., and **Walker, N. J.** (2004). EGR1 Is a Novel Target for AhR Agonists in Human Lung Epithelial Cells. *Toxicol Sci* 82, 429-435.
- 46) Nyska, A., Jokinen, M. P., Brix, A. E., Sells, D. M., Wyde, M. E., Orzech, D., Haseman, J. K., Flake, G., and **Walker, N. J.** (2004). Exocrine pancreatic pathology in female Harlan Sprague-Dawley rats after chronic treatment with 2,3,7,8-tetrachlorodibenzo-p-dioxin and dioxin-like compounds. *Environ Health Perspect* 112, 903-909.
- 47) Tani, Y., Maronpot, R. R., Foley, J. F., Haseman, J. K., **Walker, N. J.**, and Nyska, A. (2004). Follicular Epithelial Cell Hypertrophy Induced by Chronic Oral Administration of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin in Female Harlan Sprague-Dawley Rats. *Toxicol Pathol* 32, 41-49.
- 48) Toyoshiba, H., **Walker, N. J.**, Bailer, A. J., and Portier, C. J. (2004). Evaluation of toxic equivalency factors for induction of cytochromes P450 CYP1A1 and CYP1A2 enzyme activity by dioxin-like compounds. *Toxicol Appl Pharmacol* 194, 156-168.
- 49) Toyoshiba, H., Yamanaka, T., Sone, H., Parham, F. M., **Walker, N. J.**, Martinez, J., and Portier, C. J. (2004). Gene interaction network suggests dioxin induces a significant linkage between aryl hydrocarbon receptor and retinoic acid receptor beta. *Environ Health Perspect* 112, 1217-1224.
- 50) Vezina, C. M., **Walker, N. J.**, and Olson, J. R. (2004) Subchronic Exposure to TCDD, PeCDF, PCB126, and PCB153: Effect on Hepatic Gene Expression. *Environ Health Perspect.* 112, 1636-1644
- 51) Wyde, M. E., Braen, A. P., Hejtmancik, M., Johnson, J. D., Toft, J. D., Blake, J. C., Cooper, S. D., Mahler, J., Vallant, M., Bucher, J. R., and **Walker, N. J.** (2004). Oral and dermal exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) induces cutaneous papillomas and squamous cell carcinomas in female hemizygous Tg.AC transgenic mice. *Toxicol Sci* 82, 34-45.
- 52) Kim, A. H., Kohn, M. C., Nyska, A., and **Walker, N. J.** (2003). Area under the curve as a dose metric for promotional responses following 2,3,7,8-tetrachlorodibenzo-p-dioxin exposure. *Toxicol Appl Pharmacol* 191, 12-21.
- 53) Jokinen, M. P., **Walker, N. J.**, Brix, A. E., Sells, D. M., Haseman, J. K., and Nyska, A. (2003). Increase in cardiovascular pathology in female Sprague-Dawley rats following chronic treatment with 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and 3,3',4,4',5-pentachlorobiphenyl (PCB126). *Cardiovasc. Toxicol.* 3, 299-310
- 54) Waters, M., Boorman, G., Bushel, P., Cunningham, M., Rick Irwin, Merrick, A., Olden, K., Paules, R., Selkirk, J., Stasiewicz, S., Brenda Weis, Houten, B. V., **Walker, N.** and Tennant, R. (2003). Systems Toxicology and the Chemical Effects in Biological Systems (CEBS) Knowledge Base. *Environ Health Perspect* 111, 811-824

1999-2002

- 55) **Walker, N. J.** (2002). Tech.Sight; Featuring Real time PCR. A technique whose time has come. *Science* 296, 557-559. (Invited review)
- 56) Kim, A. H., Kohn, M. C., Portier, C. J. and **Walker, N. J.** (2002). Impact of physiologically based pharmacokinetic modelling on benchmark dose calculations for TCDD-induced biochemical responses. *Regulatory Toxicol Pharmacol* 36, 287-296
- 57) Martinez, J. M., Afshari, C. A., Bushel, P. R., Masuda, A., Takahashi, T., and **Walker, N. J.** (2002) Differential toxicogenomic responses to 2,3,7,8-tetrachlorodibenzo-p-dioxin in malignant and nonmalignant human airway epithelial cells. *Toxicol Sci* 69, 409-426
- 58) 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. (2002). Effects of TCDD upon IKB and IKK subunits localized in microsomes by proteomics. *Arch. Biochem. Biophys.* 406, 153-164.
- 59) Wyde, M. E., Cambre, T., Lebetkin, M., Eldridge, S. R. and **Walker, N. J.** (2002). Promotion of altered hepatic foci by 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and 17 β -estradiol in male Sprague-Dawley rats. *Toxicol Sci* 68, 295-303

- 60) Kerr, M. K., Afshari, C. A., Bennett, L., Bushel, P., Martinez, J., **Walker, N. J.** and Churchill, G. A. (2002). Statistical Analysis of a Gene Expression Microarray Experiment with Replication. *Statistica Sinica* 12, 203-217.
- 61) **Walker, N. J.** (2001). Real-time and quantitative PCR: applications to mechanism-based toxicology. *J Biochem Mol Toxicol* 15, 121-7. (Invited review)
- 62) Wyde, M. E., Wong, V. A., Kim, A. H., Lucier, G. W. and **Walker, N. J.** (2001). Induction of Hepatic 8-Oxo-deoxyguanosine Adducts by 2,3,7,8- Tetrachlorodibenzo-p-dioxin in Sprague-Dawley Rats Is Female-Specific and Estrogen-Dependent. *Chem Res Toxicol* 14, 849-855.
- 63) Wyde, M. E., Eldridge, S. R., Lucier, G. W. and **Walker, N. J.** (2001) Regulation of 2,3,7,8-tetrachlorodibenzo-p-dioxin induced tumor promotion by 17 β -estradiol in female Sprague-Dawley rats. *Toxicol. Appl. Pharmacol.* 173,7-17.
- 64) Kohn, M. C., **Walker, N. J.**, Kim, A. H. and Portier, C. J. (2001) Physiological modeling of a proposed mechanism of enzyme induction by TCDD. *Toxicology* 162, 193–208.
- 65) Timchalk, C., **Walker, N.J.**, Mann, R. C. and Metting, F. B. (2001). The Virtual Body Workshop: Current and Future Application of Human Biology Models in Environmental Health Research. *Environ. Health Perspect.* 109, 421-423.
- 66) Tritscher, A. M., Mahler, J., Portier, C. J., Lucier, G. W. and **Walker, N. J.** (2000). Induction of Lung Lesions in Female Rats following Chronic Exposure to 2,3,7,8 –Tetrachlorodibenzo-p-dioxin. *Toxicol. Pathol.* 28, 761-769.
- 67) Glover, R. E., Germolec, D. R., Patterson, R., **Walker, N. J.**, Lucier, G. W. and Mason, R. P. (2000). Endotoxin (lipopolysaccharide)-induced nitric oxide production in 2,3,7,8-tetrachlorodibenzo-p-dioxin-treated Fischer rats: Detection of nitrosyl hemoproteins by EPR spectroscopy. *Chem. Res. Toxicol.* 13, 1051-1055.
- 68) **Walker, N. J.**, Tritscher, A. M., Sills, R. C., Lucier, G. W. and Portier, C. J. (2000). Hepatocarcinogenesis in female Sprague-Dawley rats following discontinuous treatment with 2,3,7,8 tetrachlorodibenzo-p-dioxin. *Toxicol. Sci.* 54, 330-337.
- 69) Wyde, M. E., Seely, J., Lucier, G. W. and **Walker, N. J.** (2000). Toxicity of chronic exposure to 2,3,7,8 - tetrachlorodibenzo-p-dioxin in diethylnitrosamine-initiated ovariectomized rats implanted with subcutaneous 17beta-estradiol pellets. *Toxicol. Sci.* 54, 493-499.
- 70) Santostefano, M. J., Richardson, V. M., **Walker, N. J.**, Blanton, J., Lindros, K. O., Lucier, G. W., Alcalsey, S. K. and Birnbaum, L. S. (1999). Dose dependent localization of TCDD in isolated centrilobular and periportal hepatocytes. *Toxicol. Sci.* 52, 9-19.
- 71) Spencer, D. L., Masten, S. A., Lanier, K. M., Yang, X., Grassman, J. A., Miller, C. R., Sutter, T. R., Lucier, G. W. and **Walker, N. J.** (1999). Quantitative analysis of constitutive and 2,3,7,8-tetrachlorodibenzo-p- dioxin-induced cytochrome P450 1B1 expression in human lymphocytes. *Cancer Epidemiol. Biomarkers Prev.* 8, 139-46.
- 72) **Walker, N. J.**, Portier, C. J., Lax, S. F., Crofts, F. G., Li, Y., Lucier, G. W. and Sutter, T. R. (1999). Characterization of the dose-response of CYP1B1, CYP1A1, and CYP1A2 in the liver of female Sprague-Dawley rats following chronic exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin. *Toxicol. Appl. Pharmacol.* 154, 279-86.

1995-1998

- 73) Grassman, J. A., Masten, S. A., **Walker, N. J.** and Lucier, G. W. (1998). Animal models of human response to dioxins. *Environ Health Perspect* 106 Suppl 2, 761-75. (Invited review)
- 74) Kim, J. H., Stansbury, K. H., **Walker, N. J.**, Trush, M. A., Strickland, P. T. and Sutter, T. R. (1998). Metabolism of benzo[a]pyrene and benzo[a]pyrene-7,8-diol by human cytochrome P450 1B1. *Carcinogenesis* 19, 1847-53.
- 75) **Walker, N. J.**, Miller, B. D., Kohn, M. C., Lucier, G. W. and Tritscher, A. M. (1998). Differences in kinetics of induction and reversibility of TCDD-induced changes in cell proliferation and CYP1A1 expression in female Sprague- Dawley rat liver. *Carcinogenesis* 19, 1427-35.
- 76) **Walker, N. J.**, Crofts, F. G., Li, Y., Lax, S. F., Hayes, C. L., Strickland, P. T., Lucier, G. W. and Sutter, T. R. (1998). Induction and localization of cytochrome P450 1B1 (CYP1B1) protein in the livers of TCDD-treated rats: detection using polyclonal antibodies raised to histidine-tagged fusion proteins produced and purified from bacteria. *Carcinogenesis* 19, 395-402.

- 77) Hayes, C. L., Spink, D. C., Spink, B. C., Cao, J. Q., **Walker, N. J.** and Sutter, T. R. (1996). 17 beta-estradiol hydroxylation catalyzed by human cytochrome P450 1B1. *Proc. Natl. Acad. Sci. U. S. A.* 93, 9776-9781.
- 78) Selmin, O., Lucier, G. W., Clark, G. C., Tritscher, A. M., Vanden Heuvel, J. P., Gastel, J. A., **Walker, N. J.**, Sutter, T. R. and Bell, D. A. (1996). Isolation and characterization of a novel gene induced by 2,3,7,8- tetrachlorodibenzo-p-dioxin in rat liver. *Carcinogenesis* 17, 2609-15.
- 79) **Walker, N. J.**, Gastel, J. A., Costa, L. T., Clark, G. C., Lucier, G. W. and Sutter, T. R. (1995). Rat CYP1B1: an adrenal cytochrome P450 that exhibits sex-dependent expression in livers and kidneys of TCDD-treated animals. *Carcinogenesis* 16, 1319-27.

Peer-reviewed National Toxicology Program Technical Reports (Role as Study Scientist)

- 80) NTP technical report on the Toxicology and Carcinogenesis Studies of 2,3',4,4',5- Pentachlorobiphenyl (PCB 118) (CAS No. 31508-00-6) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2010) Technical Report Series No. 559. **(Study Scientist)**
- 81) NTP technical report on the Toxicology and Carcinogenesis Studies of 3,3',4,4',5-Pentachlorobiphenyl (PCB126) (CAS No. 57465-28-8) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2006) Technical Report Series No. 520. **(Study Scientist)**
- 82) NTP technical report on the Toxicology and Carcinogenesis Studies of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (CAS No. 1746-01-6) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2006) Technical Report Series No. 521. **(Study Scientist)**
- 83) NTP technical report on the Toxicology and Carcinogenesis Studies of 2,2',4,4',5,5'Hexachlorobiphenyl (PCB 153) (CAS No. 35065-27-1) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2006) Technical Report Series No. 529. **(Study Scientist)**
- 84) NTP technical report on the Toxicology and Carcinogenesis Studies of 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (CAS No. 57117-31-4) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2006) Technical Report Series No. 525. **(Study Scientist)**
- 85) NTP technical report on the Toxicology and Carcinogenesis Studies of a Mixture of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (CAS No. 1746-01-6), 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (CAS No. 57117-31-4), 3,3',4,4',5-Pentachlorobiphenyl (PCB 126) (CAS No. 57465-28-8) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2006) Technical Report Series No. 526. **(Study Scientist)**
- 86) NTP technical report on the Toxicology and Carcinogenesis Studies of a Binary Mixture of 3,3',4,4',5-Pentachlorobiphenyl (PCB126) (CAS No. 57465-28-8) and 2,2',4,4',5,5'-Hexachlorobiphenyl (PCB153) (CAS No. 35065-27-1) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2006) Technical Report Series No. 530. **(Study Scientist)**
- 87) NTP technical report on the Toxicology and Carcinogenesis Studies of a Binary Mixture of 3,3',4,4',5-Pentachlorobiphenyl (PCB126) (CAS No. 57465-28-8) and 2,3',4,4',5-Pentachlorobiphenyl (PCB118) (CAS No. 31508-00-6) in Female Harlan Sprague-Dawley Rats (Gavage Studies). (2006). Technical Report Series No. 531. **(Study Scientist)**

Peer-reviewed National Toxicology Program Technical Reports (Role as Contributing Author)

2013

- 88) NTP TECHNICAL REPORT ON THE TOXICOLOGY STUDIES OF COBALT METAL (CAS NO. 7440-48-4) IN F344/N RATS AND B6C3F1/N MICE AND TOXICOLOGY AND CARCINOGENESIS STUDIES OF COBALT METAL IN F344/NTac RATS AND B6C3F1/N MICE (INHALATION STUDIES) Technical Report Series No. 581 (Contributing Author)
- 89) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF VINYLIDENE CHLORIDE (CAS NO. 75-35-4) IN F344/N RATS AND B6C3F1/N MICE (INHALATION STUDIES) Technical Report Series No. 582 (Contributing Author)

- 90) NTP TECHNICAL REPORT ON THE TOXICOLOGY STUDIES OF TETRABROMOBISPHENOL A (CAS NO. 79-94-7) IN F344/NTac RATS AND B6C3F1/N MICE AND TOXICOLOGY AND CARCINOGENESIS STUDIES OF TETRABROMOBISPHENOL A IN WISTAR HAN [CrI:WI(Han)] RATS AND B6C3F1/N MICE (GAVAGE STUDIES) Technical Report Series No. 587 (Contributing Author)
- 91) NTP TECHNICAL REPORT ON TOXICOLOGY AND CARCINOGENESIS STUDIES OF GLYCIDAMIDE (CAS NO. 5694-00-8) IN F344/N Nctr RATS AND B6C3F1/Nctr MICE (DRINKING WATER STUDIES) Technical Report Series No. 588 (Contributing Author)

2012

- 92) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF PYROGALLOL (CAS NO. 87-66-1) IN F344/N RATS AND B6C3F1/N MICE (DERMAL STUDIES) Technical Report Series No. 574 (Contributing Author)
- 93) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF TRIMETHYLOLPROPANE TRIACRYLATE (TECHNICAL GRADE) (CAS NO. 15625-89-5) IN F344/N RATS AND B6C3F1/N MICE (DERMAL STUDIES) Technical Report Series No. 576 (Contributing Author)
- 94) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF GINKGO BILOBA EXTRACT (CAS NO. 90045-36-6) IN F344/N RATS AND B6C3F1/N MICE. (GAVGE STUDIES) Technical Report Series No. 578 (Contributing Author)
- 95) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF N,N-DIMETHYL-p-TOLUIDINE (CAS NO. 99-97-8) IN F344/N RATS AND B6C3F1/N MICE (GAVAGE STUDIES) Technical Report Series No. 579 (Contributing Author)
- 96) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF β -PICOLINE (CAS NO. 108-99-6) IN F344/N RATS AND B6C3F1/N MICE (DRINKING WATER STUDIES) Technical Report Series No. 580 (Contributing Author)

2011

- 97) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF A NONDECOLORIZED WHOLE LEAF EXTRACT OF ALOE BARBADENSIS MILLER (ALOE VERA) IN F344/N RATS AND B6C3F1 MICE (DRINKING WATER STUDY). Technical Report Series No. 577 (Contributing Author)
- 98) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF ACRYLAMIDE (CAS NO. 79-06-1) IN F344/N RATS AND B6C3F1 MICE (DRINKING WATER STUDY) Technical Report Series No. 575 (Contributing Author)
- 99) NTP REPORT ON THE TOXICOLOGY STUDY OF SENNA (CAS NO. 8013-11-4) IN C57BL/6NTAC MICE AND TOXICOLOGY AND CARCINOGENESIS STUDY OF SENNA IN GENETICALLY MODIFIED C3B6.129F1-Trp53tm1Brd N12 HAPLOINSUFFICIENT (+/-) (HETEROZYGOUS F1 P53+/-) MICE. Genetically Modified Model Report series No. 15 (Contributing Author)
- 100) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF STYRENE-ACRYLONITRILE TRIMER IN F344/N RATS (PERINATAL AND POSTNATAL FEED STUDIES). Technical Report Series No. 573 (Contributing Author)
- 101) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF METHYL trans-STYRYL KETONE (CAS NO. 1896-62-4) IN F344/N RATS AND B6C3F1 MICE (FEED AND DERMAL STUDIES) Technical Report Series No. 572 (Contributing Author)
- 102) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF KAVA KAVA EXTRACT (CAS NO. 9000-38-8) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). Technical Report Series No. 571 (Contributing Author)
- 103) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF α,β -THUJONE (CAS NO. 76231-76-0) IN F344/N RATS AND B6C3F1 MICE. Technical Report Series No. 570 (Contributing Author)

2009

- 104) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF BIS(2-CHLOROETHOXY)METHANE (CAS NO. 111-91-1) IN F344/N RATS AND B6C3F1 MICE (DERMAL STUDIES). Technical Report No 536. (Contributing Author)
- 105) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF PULEGONE (CAS NO. 89-82-7) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). Technical Report No 563. (Contributing Author)
- 106) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1-BROMOPROPANE (CAS NO. 106-94-5) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). Technical Report No 564. (Contributing Author)
- 107) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF MILK THISTLE EXTRACT (CAS NO. 84604-20-6) IN F344/N RATS AND B6C3F1 MICE (FEED STUDIES). Technical Report No 565. (Contributing Author)
- 108) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF DIETHYLAMINE (CAS NO. 109-89-7) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). Technical Report No 566. (Contributing Author)
- 109) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF GINSENG (CAS NO. 50647-08-0) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES) Technical Report No 567. (Contributing Author)
- 110) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF GOLDENSEAL ROOT POWDER (HYDRASTIS CANADENSIS) IN F344/N RATS AND B6C3F1 MICE (FEED STUDIES). Technical Report No 562. (Contributor)
- 111) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF TETRALIN (CAS NO. 119-64-2) IN F344/N RATS AND B6C3F1 MICE AND A TOXICOLOGY STUDY OF TETRALIN IN MALE NBR RATS (INHALATION STUDIES) Technical Report No 561 (Contributing Author)
- 112) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF ANDROSTENEDIONE (CAS NO. 63-05-8) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES), Technical Report No 560. (Contributing Author)
- 113) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF 3,3',4,4'-TETRACHLOROAZOBENZENE (TCAB) (CAS NO. 14047-09-7) IN HARLAN SPRAGUE-DAWLEY RATS AND B6C3F1 MICE (GAVAGE STUDIES) Technical Report No 558. (Contributing Author)
- 114) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF β -MYRCENE (CAS NO. 123-35-3) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES) Technical Report No 557. (Contributing Author)

2008

- 115) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,2-DIBROMO-2,4-DICYANOBUTANE (CAS NO. 35691-65-7) IN F344/N RATS AND B6C3F1 MICE (DERMAL STUDIES) Technical Report No 555. (Contributing Author)
- 116) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF 5-(HYDROXYMETHYL)-2-FURFURAL (CAS NO. 67-47-0) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES) Technical Report No 554. (Contributing Author)
- 117) NTP TECHNICAL REPORT ON THE PHOTOCARCINOGENESIS STUDY OF ALOE VERA [CAS NO. 481-72-1 (Aloe-emodin)] IN SKH-1 MICE (SIMULATED SOLAR LIGHT AND TOPICAL APPLICATION STUDY) Technical Report No 553. (Contributing Author)

- 118) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF BROMOCHLOROACETIC ACID (CAS NO. 5589-96-8) IN F344/N RATS AND B6C3F1 MICE (DRINKING WATER STUDIES) Technical Report No 549. (Contributing Author)
- 119) NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF DIBROMOACETONITRILE (CAS NO. 3252-43-5) IN F344/N RATS AND B6C3F1 MICE (DRINKING WATER STUDIES) Technical Report No 544. (Contributing Author)
- 120) NTP Technical Report on the 3-Month Toxicity Studies of Estragole (CAS No. 140-67-0) Administered by Gavage to F344/N Rats and B6C3F1 Mice. Toxicity Report No 82 (Contributing Author)

Peer reviewed Government reports

- 1) Small is Different: A Science Perspective on the Regulatory Challenges of Nanoscale. Report of the Expert Panel on Nanotechnology, The Council of Canadian Academies (2008) (Contributor).
- 2) National Nanotechnology Initiative: Strategy for Nanotechnology-Related Environmental, Health and Safety Research. (February 2008) (Contributor)
- 3) National Nanotechnology Initiative: Environmental, Health and Safety Research Needs for Engineered Nanoscale Materials (September 2006) (Contributor)
- 4) USEPA Health Assessment Document for 2,3,7,8-tetrachlorodibenzo-p-dioxin and related compounds Part II. Chapter 8: Dose-Response Modeling for 2,3,7,8-TCDD, EPA document number NCEA-I-0835, September 2000. (Contributor)
- 5) USEPA Health Assessment Document for 2,3,7,8-tetrachlorodibenzo-p-dioxin and related compounds. Chapter 6; Carcinogenicity of TCDD in animals. In Part II: Health Assessment for 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds (Chapters 1-7) EPA document number EPA/600/P-00/001Bb-Be, September 2000. (Contributor)

Non-Peer Reviewed Publications

Book Chapters

- 1) Nyska, A., Brix, A. E., Jokinen, M. P., Sells, D. M., Wyde, M. E., Orzech, D., Haseman, J.K., Flake, G. and Walker, N. J. (2005) Chemically induced exocrine degeneration, atrophy, and arterial diseases in rats. In *Toxicology of the Pancreas* (P.M. Pour, ed)
- 2) Walker N.J. and Martinez J.M. (2004) Real-time and Quantitative PCR. In *Toxicogenomics: Principles and Applications* (H. K. Hamadeh and C. A. Afshari, eds.)
- 3) DeVito, M., Kim, A., Walker, N., Parham, F., and Portier, C. J. (2003). Dose response modelling for 2,3,7,8-tetrachlorodibenzo-p-dioxin. In *Dioxins and Health* (T. Gasiewicz, ed., Vol. 2nd Edition.)
- 4) Martinez, J. M., DeVito, M. J., Birnbaum, L. S., and Walker, N. J. (2003). Toxicology of dioxin and dioxin-like compounds. In *Dioxins and Health* (T. Gasiewicz, ed. 2nd Edition.)
- 5) Teeguarden, J., and Walker, N. J. (2003). Experimental Carcinogenicity of Dioxins. In *Dioxins and Health* (T. Gasiewicz, ed., 2nd Edition.)
- 6) Sutter, T. R., Cody, C. W., Gastel, J. A., Hayes, C. L., Li, Y. L., Walker, N.J. and Yin, H. (1995). Receptor Mediated Toxicity: The Dioxin receptor as an example of biological complexity and experimental approaches. Modulation of cellular responses in toxicity. C. L. Galli, A. M. Goldberg and M. Marinovich. Berlin, New York, Springer Verlag. NATO-ASI series. volume 93: 21-35.

Published Conference/Symposium Proceedings

- 7) Haws LC, Unice, KM, Tachovksy, A., Harris, MA, DeVito MJ, Walker NJ, Birnbaum LS, Farland WH, Nguyen, L, Finley BL, and Staskal DF (2008). Assessment of the impact of using weighted distributions of REPs to develop exposure estimates for dioxin-like compounds. *Organohalogen Compounds (Proceedings of Dioxin 2008: 28th International Symposium on Halogenated Environmental Organic Pollutants and POPs.)*

- 8) Scott PK, Haws LC, Staskal DF, Birnbaum LS, Walker NJ, DeVito MJ, Harris MA; Farland WH, Finley BL, and Unice KM (2006) An alternative method for establishing TEFs for dioxin-like compounds. Part 1. Evaluation of decision analysis methods for use in weighting relative potency data. *Organohalogen Compounds (Proceedings of Dioxin 2006: 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs.)*
- 9) Haws LC, DeVito MJ, Birnbaum LS., Walker NJ, Scott PK, Unice KM, Harris MA, Farland WH, Finley BL, and Staskal DF (2006). An alternative method for establishing TEFs for dioxin-like compounds. Part 2. Development of an approach to quantitatively weight the underlying potency data. *Organohalogen Compounds (Proceedings of Dioxin 2006: 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs.)*
- 10) Staskal DF, Unice KM, Walker NJ, DeVito MJ Birnbaum LS, Scott PK, Harris MA, Farland WH, Finley BL and Haws LC (2006). An alternative method for establishing TEFs for dioxin-like compounds. Part 3. Development of weighted distributions of REPs for PCB 126 and 2,3,4,7,8-PeCDF. *Organohalogen Compounds. (Proceedings of Dioxin 2006: 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs.)*
- 11) Van den Berg, M., Birnbaum, L.S., Denison, M.S., De Vito, M, Farland, W., Feeley, M., Fiedler, H., Hakansson, H., Hanberg, A., Haws, L., Rose, M., Safe, S., Schrenk, D., Tohyama, C., Tritscher, A., Tuomisto, J., Tysklind, M., Walker, N., and Peterson, R.E. (2006) Human and mammalian toxic equivalency factors for dioxins and dioxin-like compounds: the WHO 2005 re-evaluation. *Organohalogen Compounds (Proceedings of Dioxin 2006: 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs.)*
- 12) Walker, N., Nyska, A., Crockett, P., Brix, A., Jokinen, M., Hailey, J., Haseman, J., Sells, D., Wyde, M., Smith, C., Orzech, D., and Bucher, J. (2004) Carcinogenicity of individual and a mixture of dioxin-like compounds in female Harlan Sprague Dawley rats. *Organohalogen Compounds 66 (Proceedings of Dioxin 2004: 24th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 3369-3375.*
- 13) Haws, L., Harris, M., Su, S., Walker, N., Birnbaum, L.S., DeVito, M.J., Farland, W. H., Connor, K., Santamaria, A., and Finley, B. (2004) A preliminary approach to characterizing variability and uncertainty in the mammalian PCDD/F and PCB TEFs. *Organohalogen Compounds 66 (Proceedings of Dioxin 2004: 24th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 3439-3445*
- 14) Haws, L., Harris, M., Su, S., Birnbaum, L., DeVito, M., Farland, W., Walker, N., Connor, K., Santamaria, A., and Finley, B. (2004) Development of a Refined Database of Relative Potency Estimates to Facilitate Better Characterization of Variability and Uncertainty in the Current Mammalian TEFs for PCDDs, PCDFs, and Dioxin-like PCBs. *Organohalogen Compounds 66 (Proceedings of Dioxin 2004: 24th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 3426-3432*
- 15) DeVito, M., Walker, N. and Birnbaum, L.S. (2003) The influence of chemical impurity on estimating relative potency factors for PCBs. *Organohalogen Compounds 65 (Proceedings of Dioxin 2003: 23rd International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 293-297.*
- 16) Grassman, J. A., Needham, L. L., Masten, S. A., Patterson, D, Lucier, G.W. and Walker N.J. (2002) Expression of cytochromes P4501A1, 1A2 and 1B1 are correlated with dioxin levels in human liver. *Organohalogen Compounds 59 (Proceedings of Dioxin 2002: 22nd International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 183-187.*
- 17) Kim, A. H., Kohn, M. C., Portier, C. J. and Walker, N. J. (2001). Impact of physiologically-based pharmacokinetic modeling on benchmark dose calculations for TCDD-induced noncancer endpoints. *Organohalogen Compounds 53 (Proceedings of Dioxin 2001: 21st International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 266-270.*
- 18) Martinez, J., Afshari, C., Bushel, P., Martin, K., Masuda, A., Takahashi, T. and Walker, N. (2001). Gene expression profiling in TCDD-treated human lung cells. *Organohalogen Compounds 53 (Proceedings of Dioxin 2001: 21st International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 320-323.*
- 19) Grassman, J. A., Needham, L. L., Masten, S. A., Patterson, D., Portier, C. J., Lucier, G. W. and Walker, N. J. (2000). Evidence of hepatic sequestration of dioxins in humans? An examination of tissue levels and CYP1A2 expression. *Organohalogen Compounds 48 (Proceedings of Dioxin 2000: 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 87-90.*
- 20) Kim, A., Devito, M., Walker, N. J., Parham, F., Ye, F., Cogliano, C. and Portier, C. (2000). Dose-Response modeling of Rodent Noncancer Endpoints from Exposure to TCDD Using a Benchmark Dose Approach. *Organohalogen Compounds*

- 48 (Proceedings of Dioxin 2000: 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 288-291.
- 21) Martinez, J., Masuda, A., Takahashi, T. and Walker, N. (2000). TCDD responsiveness of a nonmalignant human lung peripheral epithelial cell line. *Organohalogen Compounds 49* (Proceedings of Dioxin 2000: 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 155-158.
- 22) Walker, N. J., Fuciarelli, A. F., Portier, C. J., Hejtmancik, M. R., Johnson, J. D., van Birgelen, A. P. J. M., Orzech, D. P. and Bucher, J. R. (2000). Relative potency factors for enzyme induction by dioxin-like compounds in chronic rodent carcinogenicity studies. *Organohalogen Compounds 49* (Proceedings of Dioxin 2000: 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 235-238.
- 23) Santostefano, M. J., Richardson, V. M., Walker, N. J., Blanton, J., Lindros, K. O., Lucier, G. W., Alcalsey, S. K. and Birnbaum, L. S. (1999). TCDD Localization in Centrilobular and Periportal Hepatocytes. *Organohalogen Compounds 42* (Proceedings of Dioxin '99: 19th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 469-473.
- 24) Tritscher, A., Mahler, J., Portier, C. J., Lucier, G. W. and Walker, N. J. (1999). TCDD-Induced Lesions In Rat Lung After Chronic Oral Exposure. *Organohalogen Compounds 42* (Proceedings of Dioxin '99: 19th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 285-288.
- 25) Walker, N. J. and Lucier, G. W. (1999). Mechanisms of dioxin-induced hepatocarcinogenesis in rats. *Organohalogen Compounds 42* (Proceedings of Dioxin '99: 19th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 213-216.
- 26) Wyde, M. E., Lucier, G. W. and Walker, N. J. (1999). Influence of ovariectomy and 17 β -estradiol on the promotion of altered hepatocellular foci by TCDD. *Organohalogen Compounds 42* (Proceedings of Dioxin '99: 19th International Symposium on Halogenated Environmental Organic Pollutants and POPs.) 501-504.
- 27) Kim, A. H., Lucier, G. W., Tritscher, A. M. and Walker, N. J. (1998). The use of tissue burden as a dose metric for TCDD-inducible responses is endpoint-specific. *Organohalogen Compounds 37* (Proceedings of Dioxin '98: 18th Symposium on Halogenated Environmental Organic Pollutants.) 337-340.
- 28) Masten, S. A., Grassman, J. A., Miller, C. R., Spencer, D. L., Walker, N. J., Jung, D., Edler, L., Patterson, D. G., Needham, L. L. and Lucier, G. W. (1998). Population-based studies of dioxin responsiveness: Individual variation in CYP1A1 levels and relationship to dioxin body burden. *Organohalogen Compounds 37* (Proceedings of Dioxin '98: 18th Symposium on Halogenated Environmental Organic Pollutants.) 13-16.
- 29) Walker, N., Wyde, M. and Lucier, G. (1998). Role of estrogen in the mechanism of hepatocarcinogenesis induced by TCDD in female rat liver. *Organohalogen Compounds 37* (Proceedings of Dioxin '98: 18th Symposium on Halogenated Environmental Organic Pollutants.) 71-74.
- 30) Masten, S. A., Grassman, J. A., Yang, X., Miller, C. R., Spencer, D. L., Lanier, K. M., Walker, N. J., Jung, D., Konietzko, J., Edler, L., Patterson, D. G., Needham, L. L. and Lucier, G. W. (1997). Mechanistically based markers of exposure and response to dioxin in occupationally exposed individuals. *Organohalogen Compounds 34* (Proceedings of Dioxin '97: 17th International Symposium on Chlorinated Dioxins and Related Compounds.) 80-85.
- 31) Van Birgelen, A. P. J. M., DeVito, M. J., Orzech, D., Walker, N., Birnbaum, L. S., Bucher, J. and Lucier, G. (1997). Design of 2-year bioassays with dioxin-like compounds in female Sprague-Dawley rats. *Organohalogen Compounds 34* (Proceedings of Dioxin '97: 17th International Symposium on Chlorinated Dioxins and Related Compounds.) 154-159.
- 32) Walker, N. J., Tritscher, A., Sutter, T. R. and Lucier, G. W. (1997). CYP1B1 and CYP1A1 exhibit differential dose - response relationships in the TCDD-treated female Sprague-Dawley rat liver. *Organohalogen Compounds 34* (Proceedings of Dioxin '97: 17th International Symposium on Chlorinated Dioxins and Related Compounds.) 10-14.
- 33) Walker, N. J., Tritscher, A. M., Sills, R. C. and Lucier, G. W. (1997). Hepatocarcinogenesis in a Sprague-Dawley rat initiation/promotion model following discontinuous exposure to TCDD. *Organohalogen Compounds 34* (Proceedings of Dioxin '97: 17th International Symposium on Chlorinated Dioxins and Related Compounds.) 150-153.
- 34) Grassman, J., Clark, G., Yang, X.-P., Masten, S., Spencer, D., Landi, M. T., Miller, C., Walker, N. and Lucier, G. (1996). Estimating variability in response to dioxin after exposure in Seveso, Italy. *Organohalogen Compounds 30* (Proceedings of Dioxin '96: 16th International Symposium on Chlorinated Dioxins and Related Compounds.) 302-307.

