Nigel John Walker

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National Institutes of Health (NIH)
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Citizenship US Citizen

Education

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

Board certification

2007-present Diplomate, American Board of Toxicology (Recertified; 2012, 2016)

Current Position

2018-present Acting Chief, Toxicology Branch
Division of the National Toxicology Program (DNTP), NIEHS, NIH

2007-present Deputy Division Director for Research
Division of the National Toxicology Program (DNTP), NIEHS, NIH
(Administrative title changes: Deputy Division Director for Science 2011-2015; Deputy Program Director for Science, 2007-2011)

Major duties involve working with the DNTP Division Director in the formulation, coordination, implementation, management and oversight of activities necessary to carry out the scientific missions of the National Toxicology Program (NTP), an interagency program headquartered at NIEHS/NIH.

Duties include; supervising a branch of 15 toxicology research personnel, serving as one of the DNTP senior scientists and science advisors to analyze NTP science requirements and help determine the best course of action within the Division's scientific mission; review and clear NTP scientific proposals, project strategies and products; communicate the results and outputs of the NTP to the public and other researchers both within and outside of the NIH and HHS; serve as the designated project officer for a multi-million dollar interagency agreement (IAA) between NIEHS and FDA and to liaise with counterpart FDA senior staff to provide overall oversight of the IAA, including evaluation and prioritization of research, budget management, and coordination between FDA and NIEHS to ensure the desired research programs meets NTP scientific objectives.

Employment History (Official Position)

2018-present Acting Chief, Toxicology Branch, Division of the National Toxicology Program (DNTP), NIEHS, NIH

2011-present Deputy Director, Division of the National Toxicology Program (DNTP), NIEHS, NIH

2007-2011 Deputy Director for Science, National Toxicology Program, Division of Intramural Research (DIR), NIEHS

2002-2007 NIH Staff Scientist, Toxicology Operations Branch, DIR, NIEHS

1998-2002 NIH Research Fellow, Laboratory of Computational Biology and Risk Analysis, DIR, NIEHS

1995-1998 Postdoctoral Trainee, Laboratory of Computational Biology and Risk Analysis, DIR, NIEHS

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

1989-1993 PhD candidate Biochemistry, University of Liverpool, United Kingdom

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

1986 Summer intern, Division of Neurology, Duke University Medical Center, Durham, North Carolina.

1985 Summer intern, Department of Clinical Pathology, Bristol Maternity Hospital, Bristol, Avon, United Kingdom

Invited Presentations/Lectures

2011-present

1) Cancer Free Economy Network (external NIEHS public stakeholder group) April 2019, RTP, NC; Applied research and analyses impacting environmental health: U.S. National Toxicology Program (NTP)

2) NIH Office of Dietary Supplements; September 2019, Rockville, MD; Evaluating Botanical Dietary Supplement Safety: Lessons Learned and Future Directions.

3) RTP Rodent Pathology Course September 2019; Pulmonary toxicity associated with inhalation of carbon-based nanomaterials

4) European Food Safety Authority Conference; "Integrating regulatory and academic investigations in hazard assessments by the US National Toxicology Program. Lessons learned from the CLARITY-BPA initiative." , Parma, Italy, September 2018

5) Summer STEM at National Institute of Environmental Health Sciences; ""Integrated research and analyses impacting environmental health: Lessons learned from the CLARITY-BPA initiative." NIEHS, July 2018

6) North Carolina Central University Department of Chemistry and Biochemistry, Departmental seminar: "Applied research and analyses impacting environmental health: role of the U.S. National Toxicology Program (NTP)" January 2017

7) NICEATM Webinar Series: Using Informatics to Improve Data Analysis of Chemical Screening Assays Conducted in Zebrafish; "An Overview of The National Toxicology Program's Systematic Evaluation of the Application of Zebrafish in Toxicology (SEAZIT)". February 2017

8) Invited presentation to Korean National Toxicology Program delegates at KNTP-US NTP MOU Signing "US National Toxicology Program research and activities". Baltimore MD, March 2017

9) SOT FDA Colloquium on Considerations for the Determination of Adversity in Food Chemical Safety Evaluations, "Adversity in Regulatory Science: Historical Perspective and Future Challenges" College Park, Maryland, March 2017

10) 2017 Institute of Biological Engineering Annual Conference; Convergence for Advancing Regulatory Science, Salt Lake City, March 2017

11) Interagency Coordinating Committee on the Validation of Alternative Methods Public Forum, "National Toxicology Program Update" Bethesda MD, May 2017

12) EUROTOX (European Society of Toxicology) Annual Meeting. "New approaches addressing the challenge of evaluating safety of botanical dietary supplements." Bratislava, Slovakia September 2017

13) NIEHS Science, Teachers, & Research Summer (StaRS) seminar series, NIEHS RTP, "Applied research and analyses impacting environmental health: role of the U.S. National Toxicology Program (NTP)" July 2016

14) North Carolina Association for Biomedical Research; Rx for Science Literacy Workshop, Research Triangle Park, NC "Applied research and analyses impacting environmental health: role of the U.S. National Toxicology Program (NTP)" April 2016

15) Society of Toxicology Annual Meeting, New Orleans, "Overview of Nanomaterial Toxicology and Strategies for Assessing the Safety of Nanoscale Materials." March 2016

16) Society of Toxicology Annual Meeting, New Orleans, "Biological Canaries in the Coal Mine: Strategic Implications for Utilizing Bioactivity-Based Margins of Exposures in Human Health Risk Assessments." March 2016

17) Scholars Connect Program Seminar, NIEHS "Overview of Research at the U.S. National Toxicology Program (NTP) and Career Aspirations as a Scientist" March 2016

18) EFSA Scientific Conference-Shaping the Future of Food Safety, Together , Milan, Italy; "Identification, prioritization and conduct of applied research and analyses impacting policy development: lessons learned from the U.S. National Toxicology Program (NTP)", October 2015

19) Scholars Connect Program Seminar, NIEHS. "Management of Research and Testing in the US National Toxicology Program" February 2015

20) ACGIH Herbert E. Stockinger Award Lecture: American Industrial Hygiene Conference & Exposition, Salt Lake City, UT. "A 21st Century Paradigm for Evaluating the Health Hazards of agents in the workplace: The Challenge of Nanoscale Materials", June 2015

21) NC State Veterinary Scholars Program Seminar, NIEHS, "Research and Testing in the US National Toxicology Program", June 2015

22) Federal Partners Meeting on MWCNTs, Washington DC, "NTP research assessing the toxicity of MWCNTs", December 2015

23) Scholars Connect Program Seminar, NIEHS. "Overview of Research and Testing in the US National Toxicology Program." January 2014

24) EPA Nanomaterials Research Planning Meeting, RTP, NC, "NTP activities on Nanomaterials". February 2014

25) Scientific Advisory Committee on Alternative Toxicological Methods (SACATM) meeting, RTP, NC. "NIEHS update on alternative toxicological methods". September 2014

26) The Toxicology Forum; 38th Annual Winter meeting, Washington DC. "The Cancer Bioassay: An NTP perspective." January 2013

27) Society of Toxicology Annual Meeting, San Antonio, TX. "Overview of concepts and strategies needed for assessing the safety of nanoscale materials." March 2013

28) Society of Toxicology Annual Meeting, San Antonio, TX. "Supervisors, Mentors, and Yodas: A perspective on their role in your career development." March 2013

29) XIII International Congress of Toxicology, Seoul, South Korea. "Overview of Research and Testing in the US National Toxicology Program." July 2013

30) KNTP-USNTP Joint Symposium, Korean Ministry of Food and Drug Safety, Osong, South Korea "Ongoing research on herbal medicines and the safety of nanomaterials." July 2013

31) GlaxoSmithKline Nanotechnology and Nanotoxicology Symposium, Research Triangle Park, NC, USA "Nanotoxicology: Assessing the Safety of Engineered Nanoscale Materials." November 2013

32) Council for Responsible Nutrition/Natural Products INSIDER Webinar. "Overview of the National Toxicology Program activities on dietary supplements." December 2013

33) 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

34) Council for Responsible Nutrition webinar. "Overview of the National Toxicology Program: dietary supplements", May 2005

35) National Center for Toxicological Research, Scientific Advisory Board Meeting, Jefferson, AK " Overview of National Toxicology Program Activities: Current and Future Collaborations.", November 2012

36) North Carolina Society of Toxicology Annual Meeting, RTP, NC. "Nanotoxicology: Assessing the Safety of Nanomaterials." February 2011

37) NIEHS Laboratory of Toxicology and Pharmacology Retreat, RTP, NC. "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials." February 2011

38) NC Society of Women Environmental Professionals/Sigma-Xi Nanotechnology Mythbusters Panel, Research Triangle Institute, RTP, NC. "Nanotoxicology". March 2011

39) Society of Toxicology Annual Meeting, Washington DC. "Minimum material characterizations for nanotoxicology studies: A necessity or a nuisance?" March 2011

40) 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

41) NCTR Scientific Advisory Board NanoCore Subcommittee Meeting, Jefferson, AK. "NIEHS and NTP Activities Evaluating the Safety of Nanoscale Materials". August 2011

42) 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

43) Introduction to Nanotechnology Science and Regulation at FDA, White Oak, Maryland, USA " Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials" September 2011

44) 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

45) International Conference; Toxicology of Mixtures, Arlington, VA. "Mixtures Research and the NIEHS and NTP; An Evolving Program." October 2011

46) NIH Botanical Research Centers meeting, Winston Salem, NC; "National Toxicology Program studies evaluating the safety of dietary supplements". November 2011

2007-2010

47) North Carolina State University, Raleigh, NC "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials".

48) Oak Ridge National Laboratory, Oak Ridge, TN. "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials".

49) 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."

50) Karolinska Institutet, Stockholm, Sweden, "A 21st century Paradigm for assessing the Health Hazards of Engineered Nanomaterials".

51) SRA International Brown Bag Seminar, RTP, NC. "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials".

52) Society of Nuclear Medicine, 4th Annual Molecular Imaging Summit: Nanomedicine and Molecular Imaging, Albuquerque, NM; "Nanotoxicology: Assessing the Health Hazards of Engineered Nanomaterials."

53) Society of Toxicology Annual Meeting, Salt Lake City, UT. "NTP activities assessing the safety of dietary supplements and herbals medicines."

54) 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".

55) Society of Risk Analysis Annual Meeting, Baltimore MD; "The Toxicology of Fullerenes: Current Efforts at the National Toxicology Program."

56) 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."

57) 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."

58) NIEHS Engineered Nanomaterials Grand Opportunity Grantee Meeting, Research Triangle Park, NC; "Current NTP efforts on ENMs Health and Safety"

59) 46th Congress of the European Societies of Toxicology (EUROTOX 2009), Dresden, Germany; "SOT-EUROTOX debate, Nanotoxicology: Is it much ado about nothing?"

60) International Conference on Nanotechnology for the Forest Products Industry, Edmonton, Canada; "Current knowledge on nanomaterial toxicity."

61) Society of Toxicology Annual Meeting, Baltimore, MD; "SOT-EUROTOX debate, Nanotoxicology: Is it much ado about nothing?"

62) American Society of Safety Engineers (ASSE) meeting, Cary. NC; "Industrial Safety in Nanotechnology"

63) 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."

64) North Carolina Nanotechnology Safety and Response Seminar, Sanford, NC. "Industrial Safety in Nanotechnology"

65) 2008 Priester Conference Participant Meeting, NIEHS, NC. "The National Toxicology Program (NTP): Better Science for Better Decisions"

66) Science Communicators of North Carolina Meeting. NIEHS. NC. "NIEHS activities on Nanotechnology: Nanoscale Science and Toxicology"

67) National Research Council Committee on the Health Risks of Phthalates, Washington DC. "Rationale Used in Cumulative Risk Assessment: Dioxins, A Case Study"

68) Business Environmental and Safety Training (BEST) Conference, Raleigh, NC "Current knowledge on nanomaterial toxicity"

69) U.S. Food and Drug Administration Annual Science Symposium. Washington, DC. "Current knowledge on nanomaterial toxicity."

70) 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."

71) USEPA Interagency Workshop on the Environmental Implications of Nanotechnology, Washington DC. "NIEHS activities on Nanotechnology: Nanoscale Science and Toxicology."

72) Second Annual International Food Nanotechnology Conference, Chicago, IL. "Nanotechnology Safety Initiative of the NIEHS and the National Toxicology Program."

73) 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."

74) NIEHS Public Interest Group Webinar, NIEHS, Research Triangle Park, NC. "National Toxicology Program Nanotechnology Safety Initiative".

75) 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?"

76) The Toxicology Forum 32nd Annual Winter Meeting, Washington DC. "The National Toxicology Program's Nanoscale Materials Research and Testing Program"

77) University of Illinois at Chicago, Laboratory for Molecular Biology, Chicago, IL. ""Assessing the health risks of Nanotechnology: A big issue in a small world."

78) Superfund Basic Research Program/EPA Risk-e-Learning Web Seminar Series, Research Triangle Park, NC. "Nanotechnology and toxicology: an overview"

2002-2006

79) Carolina Center of Cancer Nanotechnology Excellence 1st Annual Symposium on Cancer Nanotechnology, Chapel Hill, NC. "Evaluating the safety of engineered nanoscale materials."

80) American College of Toxicology Annual Meeting, Indian Wells, CA. " NIEHS Efforts to Evaluate the Human Health Hazards Associated with Exposure to Nanomaterials".

81) USEPA Seminar series, Research Triangle Park, NC. "National Toxicology Program activities evaluating the safety of nanoscale materials."

82) ILSI-Health and Environmental Sciences Institute (HESI), Washington DC. "Nanomaterial Risk Evaluation Activities at the National Institute of Environmental Health Sciences".

83) National Institute for Occupational Safety and Health, Morgantown, WV: "National Toxicology Program activities evaluating the safety of nanoscale materials."

84) FDA National Center for Toxicological Research-Toxicology Study Selection and Review Committee, Jefferson AK: "Tumorigenicity of Nanoscale TiO2 in Tg:AC Transgenic Mice".

85) Mid-Atlantic Chapter of the Society of Toxicology Webinar; "Evaluation of toxicity of nanoscale materials: Strategies, study design and interpretation".

86) National Toxicology Program Nanotechnology Working Group public meeting. Washington, DC.

87) US Measurement System Workshop on the Measurement and Standards Needs in Nanobiotechnology, Houston, TX; "National Toxicology Program activities evaluating the safety of nanoscale materials."

88) 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."

89) 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."

90) 2nd International Symposium on Nanotechnology and Occupational Health, Minneapolis, MN; "National Toxicology Program Activities Evaluating the Safety of Materials Produced Through Nanotechnology."

91) Molecular and Environmental Toxicology Center, University of Wisconsin, Madison, WI; "Evaluating Dose Additivity for Toxicity and Carcinogenicity of Mixtures of Dioxins and Polychlorinated Biphenyls."

92) National Forum on Contaminants in Fish, Baltimore, MD; "Overview of National Toxicology Program Studies of Interactions Between Individual PCB Congeners."

93) National Toxicology Program Nanotechnology Working Group public meeting. RTP, NC.

94) 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."

95) Society of Toxicology Annual Meeting, New Orleans; Roundtable speaker "Conducting a Comprehensive Toxicological and Safety Evaluation of Nanomaterials: Current Challenges and Data Needs"

96) 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."

97) NIBIB/DOE Workshop on Biomedical Applications of Nanotechnology, Washington DC; "Evaluating the Safety of Materials Produced Through Nanotechnology"

98) Toxicology Forum meeting, Washington DC. "Dose-Additivity modeling applied to the new NTP dioxin cancer bioassays."

99) 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."

100) American Chemistry Council CHEMSTAR Nanotechnology Workshop, Washington DC; "Evaluating the safety of materials produced through nanotechnology: A big issue in a small world"

101) University of North Carolina at Charlotte Biotechnology symposium; "Evaluating the safety of materials produced through nanotechnology: A big issue in a small world"

102) 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."

103) 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."

104) Polychlorinated Biphenyls (PCB) Workshop, University of Illinois at Champagne; "Evaluating dioxin Toxin Equivalency Factors (TEFs) for the carcinogenicity of dioxins and PCBs in rodents."

105) Polychlorinated Biphenyls (PCB) Workshop, University of Illinois at Champagne; "Cardiotoxicity in rats following chronic exposure to dioxins and PCBs."

106) 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

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

108) International Symposium on Endocrine Disruptors, National Institute of Toxicological Research, Seoul, South Korea; "Dioxins: Toxicology and Risk Assessment" 2002

109) Seoul National University, Seoul, South Korea; "Gene expression profiling in rat liver after subchronic exposure to dioxin." 2002

110) Catholic University of Daegu, Daegu, South Korea; "Gene expression profiling in rat liver after subchronic exposure to dioxin." 2002

1998-2000

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

112) 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

113) Laboratory of Molecular Carcinogenesis seminar series, NIEHS; "Quantitative analysis of dioxin-induced gene expression." 2000

114) National Toxicology Program Advisory Committee on Alternative Toxicological Methods, NIEHS; "Real Time and Quantitative PCR" 2000

115) NIEHS DIR-retreat, Southern Pines; "Real Time and Quantitative PCR" 2000

116) 19th International Symposium on Halogenated Environmental Organic Pollutants and POPs, Venice, Italy; "Mechanisms of dioxin-induced hepatocarcinogenesis in rats." 1999

117) 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

Invited scientific interactions and consultations:

2011-present

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

Invited member; US FDA/CFSAN Toxicology Research Working group; 2014-present

Invited conference session chair, Global Summit on Regulatory Science1 (GSRS16) Nanotechnology Standards and Applications, NIH, Bethesda, September 2016.

Invited member of the Nanomaterial Registry Advisory Board, Research Triangle Institute, NC, January 2011-2015.

Invited member; Working Group for the NIH Intramural Research Program review of the Division of the National Toxicology Program. April-August 2014

Invited participant- Cross US Federal Agency Flame Retardant Meeting, RTP, NC. May 2014

Interviewed for and quoted in an article on Aloe vera safety by *Men's Health* magazine, the best selling men's magazine in the U.S. May 2014.

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 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

2007-2010

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. 2004-2011

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

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[1] http://www.fda.gov/AboutFDA/CentersOffices/OC/OfficeofScientificandMedicalPrograms/NCTR/WhatWeDo/ucm289679.htmThe Global Summit on Regulatory Science (GSRS) is an international conference for discussion of innovative technologies and partnerships to enhance translation of basic science into regulatory applications within the global context.

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

2000-2006

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.

Awards/Notable achievements

Herbert E. Stokinger Award 2015. Awarded by the American Conference of Governmental Industrial Hygienists (ACGIH): Awarded each year to an individual who has made a significant contribution to the broad field of industrial and environmental toxicology.

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.)

2017 "For exceptional efforts to rapidly review data and issue a report of partial findings from the NTP Radio-Frequency Radiation Studies"
2016- "For outstanding leadership and oversight of the CLARITY-BPA Program."
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.

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

Co-Chairperson, Society of Toxicology Annual Meeting, March 2016, "Workshop: Bioactivity Based Margin of Exposure Safety Assessment: The Next Stop along the Road to 21st Century Safety Assessments."

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.

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

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.

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.

Scientific Society Service Activities

Society of Toxicology Mixtures Specialty Section; Councilor 2015-2017

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

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

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

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

National Toxicology Program and NIEHS Scientific Activities

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

NIEHS representative Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM); 2014-2017

Steering committee member: NIEHS/FDA Consortium Linking Academic and Regulatory Insights on Toxicity of BPA (CLARITY-BPA) 2012-present

Coordinator; NTP Forum (2009-present)

Coordinator; NTP Project Development Forum (2016-present)

NIH Project Scientist for one of the U01 centers involved in the NIEHS Centers for Nanotechnology Health Implications Research (NCNHIR) consortium. Responsible for periodic reviews of progress, participating with steering committee in the setting research priorities, deciding optimal research approaches and designs. 2010-2015,

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.

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

NIH, NIEHS and DNTP Service Activities

DNTP/NIEHS Information Technology Resources Advisory Committee (ITRAC), 2013-present

Invited Master of Ceremonies, "Music and Your Health"-NIEHS Earth Day event, Durham Convention Center NC, April 2018

NIEHS Committee on Promotions II: Member, 2006-2011; Chairperson, 2012-2017.

NIEHS Risk Management Committee Member, DNTP representative; 2013-2017

NIEHS Leadership Development Program for Non-Supervisors: Candidate Review committee 2013

Invited Master of Ceremonies, NIEHS 3-minute science Talk Competition, (December 2016), EHS-Fest, Durham NC

NIEHS Annual Awards Ceremony emcee; 2009, 2011

NIEHS Technology Evaluation Advisory Committee (TEAC) 2008-2013

NIEHS Search committee member for recruitment of:

NIEHS Deputy Executive Officer (2018)

NTP Biostatistician (2016, 2018)

DNTP Deputy Director for Analysis (2015)

NIEHS Chief Information Officer (2013)

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:

Invited "mentor" participant; NIEHS/EPA Mentoring Program 2017-2018

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, 2015, 2017, 2018

Nanotoxicology Specialty Section Mentor-Mentee lunch program. Society of Toxicology Annual Meeting, 2012, 2014, 2015

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, 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. 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.

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 (2007-2011)
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.

Leadership and Professional training

- Collaborative Negotiations Skills Course; 2016
- Effective Meetings Training; 2014
- NIEHS Good Laboratory Practices (GLP) Training; 2013
- NIEHS Leadership Development Program; 2010-2012
- TSCA Confidential Business Information Training; 2009- 2012

NIH/NIEHS Training (past 5 years)

- NIH Annual Ethics Training (current)
- NIH Information Security and Privacy Awareness (current)
- NIH Mandatory Records Management Training (current)
- NIH Harassment doesn't work here training (2019)
- NIH Supervisory Refresher Training (2018)
- Supervisors Role in Performance/Conduct Accountability (May 2018)
- HHS Travel card training (2015)
- Securing Remote Computers Training (2014)
- FDCC Systems Administrator Training (2014)
- Green Purchasing training (2013)
- NIH Environmental Management Training (2013)
- FAC-COTR Basic Project officer Training course (2007; recertified 2011)

Bibliography

Peer Reviewed Publications

Peer- reviewed Journal Articles

h-index: 35 (March 2020)
Web of Science Researcher ID: D-6583-2012
https://publons.com/researcher/2736499/nigel-j-walker/

2013-present

1) Ihrie MD, Taylor-Just AJ, Walker NJ, Stout MD, Gupta A, Richey JS, Hayden BK, Baker GL, Sparrow BR, Duke KS, Bonner JC. Inhalation exposure to multi-walled carbon nanotubes alters the pulmonary allergic response of mice to house dust mite allergen. Inhal Toxicol. 2019 Apr;31(5):192-202. doi: 10.1080/08958378.2019.1643955.

2) Galli CL, **Walker NJ**, Oberlies NH, Roe AL, Edwards J, Fitzpatrick S, Griffiths JC, Hayes AW, Mahony C, Marsman DS, O'Keeffe L. (2019) Development of a Consensus Approach for Botanical Safety Evaluation - A Roundtable Report. Toxicol Lett. S0378-4274(19)30141-9. doi: 10.1016/j.toxlet.2019.05.008.

3) Hubbard TD, Hsieh JH, Rider CV, Sipes NS, Sedykh A, Collins BJ, Auerbach SS, Xia M, Huang R, **Walker NJ,** DeVito MJ. (2019) Using Tox21 High-Throughput Screening Assays for the Evaluation of Botanical and Dietary Supplements. Appl In Vitro Toxicol. 5(1):10-25. doi: 10.1089/aivt.2018.0020.

4) Behl M, Ryan K, Hsieh JH, Parham F, Shapiro AJ, Collins BJ, Sipes NS, Birnbaum LS, Bucher JR, Foster PMD, **Walker NJ**, Paules RS, Tice RR. (2019) Screening for Developmental Neurotoxicity at the National Toxicology Program: The Future is Here. Toxicol Sci. 2019 Jan 1;167(1):6-14. doi: 10.1093/toxsci/kfy278.

5) Hamm JT, P Ceger, D Allen, M Stout, EA Maull, G Baker, A Zmarowski, S Padilla, E Perkins, A Planchart, D Stedman, T Tal, RL Tanguay, DC Volz, MS Wilbanks and **NJ Walker** (2019) Characterizing sources of variability in zebrafish embryo screening protocols. ALTEX. 2019;36(1):103-120. doi: 10.14573/altex.1804162.

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8) Rider CV, **Walker NJ,** Waidyanatha S. Getting to the Root of the Matter: Challenges and Recommendations for Assessing the Safety of Botanical Dietary Supplements. (2018) Clin Pharmacol Ther. 2018 104, 429-431. doi: 10.1002/cpt.1088. PMID: 29745419

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11) Von Tungeln LS, Walker NJ, Olson GR, Mendoza MC, Felton RP, Thorn BT, Marquese MM, Pogribny IP, Doerge DR and Beland FA (2017) Low dose assessment of the carcinogenicity of furan in male F344/N Nctr rats in a 2-year gavage study. Food Chem Toxicol. 99; 170-181, PMID: 27871980

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19) 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

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27) Hussain, S, Al-Nsour, F., Rice, A.B., Marshburn, J., Ji, Z., Zink, J.I., Yingling, B., **Walker, N.J.** and Garantziotis S. (2012) Cerium dioxide nanoparticles do not modulate the lipopolysaccharide-induced inflammatory response of human monocytes. Int J. Nanomed 12, 1387-1397; PMID: 22457596

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