

Contact

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Top Skills

Cell Culture
Western Blotting
In Vitro

Languages

French

Certifications

Diplomate of the American Board of Toxicology
Fellow of the Academy of Toxicological Sciences

Honors-Awards

2009 Superior Performance Award
2010 Superior Performance Award
2010 ORD Bronze Award
2011 ORD Bronze Award
2012 ORD Gold Award

Publications

Respiratory burst: role in signal transduction in alveolar macrophages.

Risk Management of Nanomaterials
Nanoparticles: Health Effects -- pros and cons

Single nucleotide polymorphisms of the N-formyl peptide receptor in localized juvenile periodontitis.

Differential gene expression in normal human mammary epithelial cells treated with malathion monitored by DNA microarrays.

Maureen R. Gwinn

Principal Deputy Assistant Administrator for Research and Development at US Environmental Protection Agency (EPA)
Washington, District of Columbia, United States

Summary

I am a broadly trained molecular biologist with expertise in public health research, toxicology, and risk assessment. I have more than 20 years of experience in research, environmental science, and science translation. I have strong leadership and supervisory skills in coordinating multi-disciplinary research teams to successfully address complex environmental science issues and extensive experience advising on complex scientific and science policy issues.

My most recent positions involved evaluation of the limits of present and emerging technologies to determine the long-term research and development needs of EPA and leading special projects that are of a critical nature (e.g., accelerating chemical risk assessment) with a focus on research translation of new approach methodologies (NAMs) as applied to hazard characterization, risk evaluation and regulatory decision-making. My career at the EPA also involved program management of a research portfolio to increase human health and ecosystems research integration responsive to community public health sustainability needs, as well as chemical assessment management.

My previous position is a supervisory position overseeing a division focused on development and use of new approach methods for human health hazard assessment. Our group works closely with our colleagues in the exposure and ecology fields in order to build the Agency's foundation for use of new approach methods in regulatory decision-making.

Specialties: Synthesizing and summarizing published literature for environmental exposures.

Designing, implementing and analyzing primary research in toxicology and carcinogenicity.

Oral and written communication of results to varied audiences.

Team management skills.

Experience

US Environmental Protection Agency (EPA)

17 years 1 month

Principal Deputy Assistant Administrator for Research and Development
January 2022 - Present (1 year 10 months)

Durham, North Carolina, United States

The Principal Deputy Assistant Administrator for Research and Development serves as the principal deputy and first assistant to the Assistant Administrator for ORD in the management, operation, decision-making, planning, programming, policy development and implementation, and direction of the technical and administrative aspects of ORD. Further duties include participating in the development of policies on scientific issues and strategies by advising the Assistant Administrator for ORD in the qualities and adequacies of the science and technology base which affect program goals, priorities, scientific objectives and research plans. In the role of the Chief Scientist, specific duties include advising the Assistant Administrator for ORD on overall program goals, objectives, policies, strategies, technical and scientific approaches, and program plans, based on a recognized scientific expertise. Further duties include representing ORD as the senior technical and scientific expert on ORD research program efforts with professional, scientific, engineering, and regulatory groups along with directing inter-agency, multi-disciplinary technical and institutional studies for submission to the Assistant Administrator for ORD, Congress, and others as required.

National Program Director

May 2021 - January 2022 (9 months)

Director of the Sustainable and Healthy Communities (SHC) Research Program which emphasizes research and technology to support cleaning up contaminated sites, protecting associated communities, and restoring ecosystems that provide benefits to those communities. It emphasizes solutions-driven science to support decisions that will revitalize the nation's communities and make them more resilient to severe weather and other environmental incidents.

Division Director, Biomolecular and Computational Toxicology Division

September 2019 - May 2021 (1 year 9 months)

Research Triangle Park, NC

The Biomolecular & Computational Toxicology Division (BCTD), is located in the Center for Computational Toxicology and Exposure in the Office of Research and Development at the US Environmental Protection Agency and is lead under the supervision of the Division Director. The Division performs research to develop and advance laboratory experimental and computational approaches to rapidly evaluate and characterize the potential human toxicity of chemicals. BCTD develops the next generation of high-throughput toxicity assays to identify the biological pathways and processes disrupted by chemicals as well as complex culture and alternative species models to identify tissue, organ, and organism-level effects. The BCTD utilizes state-of-the-art molecular tools to identify key events in the adverse outcome pathway (AOP) and validate results from high-throughput in vitro screening assays. BCTD also utilizes statistical and biologically-based computational modeling to analyze and integrate data from high-throughput toxicity assays, complex culture models, alternative species, toxicokinetics, and chemistry to predict adverse effects of chemicals in human and animal models.

Senior Science Advisor

November 2017 - September 2019 (1 year 11 months)

Washington D.C. Metro Area

This position is a detail from my previous position. The Senior Science Advisor provides scientific expertise and guidance in support of the Director of the National Center for Computational Toxicology in the Office of Research and Development on matters of research translation related to the use of new approach methodologies (NAMs). In this position, I provide scientific expertise, guidance, and knowledge to the Director to increase research translation of the work in the NCCT and lead special projects that are of a critical nature by establishing and maintain high-level contacts throughout the Agency. I will also develop and/or maintain effective working relationship with ORD Senior Management and key EPA program officials to facilitate cross-ORD and EPA working relationships, as well as working with international collaborators, including the OECD.

Senior Science Advisor

January 2017 - September 2019 (2 years 9 months)

Washington D.C. Metro Area

The Senior Science Advisor provides scientific expertise and guidance in support of the Assistant Administrator (AA) of the Office of Research and Development on matters of environmental science and public health. In

this position, I provide scientific expertise, guidance, and knowledge to the AA to enable the research decision-making process; evaluate the limits of present and emerging technologies to determine the long-term research and development needs of EPA; and lead special projects that are of a critical nature by establishing and maintain high-level contacts throughout the Agency. I also develop and maintain effective working relationship with ORD Senior Management and key EPA program officials to facilitate cross-ORD and EPA working relationships.

Biologist

October 2006 - September 2019 (13 years)

United States

My current position (2006 – present) as Biologist in the National Center for Environmental Assessment (NCEA), Office of Research and Development (ORD), United States Environmental Protection Agency (US EPA) entails responsibility for a broad range of activities related to chemical health hazard and risk assessment. My primary duties are preparing and reviewing human health risk assessment research, maintaining knowledge of the state-of-the-art in assessment techniques, and recommending the development of new methods for risk assessment (mode of action, nanomaterial assessment) that can be used by scientists, both inside and outside the Agency.

During this position, I was detailed to a variety of positions within the organization.

Science Associate, Immediate Office of the Assistant Administrator

May 2016 - January 2017 (9 months)

The Science Associate provides scientific expertise and guidance in support of the Deputy Assistant Administrator (DAA) for Science in the Office of Research and Development on matters of environmental science and research issues. In this position, I provide scientific expertise, guidance, and knowledge to the DAA for Science to enable the research decision-making process; evaluates the limits of present and emerging technologies to determine the long-term research and development needs of EPA; and leads special projects that are of a critical nature by establishing and maintain high-level contacts throughout the Agency. Specific assignments are determined by the DAA for Science as emerging issues are identified and I provide coordinated responses in a timely manner. I also develop and maintain effective working relationship with ORD Senior Management and key EPA program officials to facilitate cross-ORD and EPA working relationships.

Special Assistant, Immediate Office of the Assistant Administrator
March 2015 - May 2016 (1 year 3 months)
Washington, DC

The Special Assistant provides scientific expertise and guidance in support of the Deputy Assistant Administrator (DAA) for Science on matters of science and research issues. In this position, I conduct comprehensive and technical analyses of science and science policy issues and problems as well as providing general advice and guidance to the DAA for Science. Specific assignments are determined by the DAA for Science as emerging issues are identified. I also develop and maintain effective working relationship with ORD Senior Management and key EPA program officials to facilitate cross-ORD and EPA working relationships.

Deputy Division Director (Acting)
November 2014 - March 2015 (5 months)
Washington Division, National Center for Environmental Assessment

The Washington Division of the National Center for Environmental Assessment (NCEA-W) provides chemical toxicity information for risk assessments, site-specific environmental decisions, and rule-making. NCEA-W includes three groups that are multidisciplinary and conduct a broad array of scientific assessments. These include human exposure analyses and human health assessments for the Integrated Risk Information System (IRIS), including application of methodologies and approaches for evaluating data, and developing ways improve risk assessment methodologies and their implementation. In this position, I am responsible for administrative and managerial functions of the Division; tracking progress of projects; working with NCEA-W branch chiefs to help staff identify and resolve issues on projects and adjusting to changing deadlines; and being responsive to NCEA's priorities and management. In this position I work with the other divisions within NCEA and with other offices to achieve goals and targets for NCEA-W projects, including contributing to strategic project and workforce planning.

Associate National Program Director, Sustainable and Healthy Communities
June 2012 - October 2014 (2 years 5 months)
Arlington, VA

Currently the Associate National Program Director for Community Public Health within the Office of Research and Development, US EPA (Sustainable and Healthy Communities). The main activities involved in this position include managing the human health research program for Sustainable and Healthy Communities National Program with a focusing on integrating this program

more fully with the ecosystems goods and services work in other aspects of this program. This position also involves managing a small group of experts in human health and ecosystems goods and services research. This position also requires the ability to multi-task and be quickly responsive to programmatic issues as assigned by the National Program Director for Sustainable and Healthy Communities and participation in the development and implementation of the Office of Research and Development's strategic and multi-year plans. In this position, I was responsible for special projects.

Acting Assistant Center Director for Risk Analysis

January 2011 - July 2012 (1 year 7 months)

Acting Assistant Center Director for Risk Analysis in the Immediate Office of the Director, National Center for Environmental Assessment. The main activities involved in this position include overseeing the comprehensive analysis of data which characterizes hazards from exposure to environmental toxicants through critical review of multiple IRIS and PPRTV assessments, providing expert advice to chemical managers, NCEA Center Director, and senior EPA managers and working with the Chemical Assessment Support Team (CAST) to revise and disseminate the Current Practices for IRIS/PPRTV Draft Development on how to address overarching issues in the program. This position also requires the ability to multi-task and be quickly responsive to programmatic issues as assigned by the Associate Director for Health and participation in the development and implementation of the Office of Research and Development's strategic and multi-year plans. In this position, I was responsible for special projects related to advances in human health risk assessments and coordinating risk assessment policy development. I have an excellent ability to evaluate, incorporate, and communicate latest developments in health risk programs to a wide audience and to provide scientific leadership on the advancement of future strategic program activities. These activities require excellent skills in oral and written communication.

Society of Toxicology

Chair, K-12 Outreach Task Force

2009 - 2013 (4 years)

In this position, I worked to increase public understanding of toxicology as a science, and its role in everyday life. This included organizing and leading hands-on events, meetings with colleagues to increase resources for outreach and proposing new events and activities with budget details.

National Institute for Occupational Safety and Health

6 years 3 months

CDC Associate Service Fellow

January 2004 - October 2006 (2 years 10 months)

Morgantown, WV

My work in the Pathology and Physiology Research Branch was as the principal investigator examining the role of freshly fractured and aged silica in lung carcinogenesis. This project examined the toxicological response to silica in a p53 animal model, focusing on reactive oxygen species production and effects, including DNA damage and repair, apoptosis and cell cycle alterations. This project was performed in the spirit of Good Laboratory Practices, and I have been instrumental in setting up the GLP protocol and Standard Operating Procedures necessary. During this time, I was also the lead on a project to examine the role of chemical composition on in vitro toxic responses to nanoparticles focusing on reactive oxygen species production, apoptosis, gene expression alterations, DNA damage, antioxidant status and cell viability (manuscript in preparation).

NRC Associate Service Fellow

August 2000 - January 2004 (3 years 6 months)

Morgantown, WV

As a member of the Molecular Carcinogenesis Team, my research focused on the effect of DNA polymorphisms in cell cycle control genes in normal human mammary epithelial cells after exposure to various chemical carcinogens. My work involved cell culture of normal human mammary epithelial cell strains for exposure to the various chemicals followed by confocal microscopy and high-density oligonucleotide microarrays analysis. Results were confirmed by real-time PCR and Western blot analysis when possible. During my tenure at NIOSH, I have been an ad-hoc reviewer of in-house manuscripts (Flint, Luster) as well as reviews for publications like Cancer Epidemiology, Biomarkers and Prevention and for the International Programme on Chemical Safety for the Concise International Chemical Assessment Document (CICAD).

Education

Harvard Kennedy School

Senior Executive Fellows (Non-Degree), Executive Education · (2017 - 2017)

State University of New York at Buffalo School of Dental Medicine

PhD, Oral Biology · (1997 - 2000)

State University of New York at Buffalo School of Dental Medicine
MS, Oral Sciences · (1994 - 1997)

Bates College
BS, Biology · (1990 - 1994)

Scarborough High School