

Wayman Turner

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Professional Profile

Mr. Turner's technical expertise includes clinical/nutritional biochemistry, bioanalytical chemistry, analytical chemistry, laboratory data handling and quality control/quality assurance, specimen collection and storage, and human biomonitoring and chemical exposure assessment. He is recognized worldwide for his research in the measurement of persistent organic pollutants and their assessment in the human body.

Prior to joining Exponent, Mr. Turner was Chief of the Dioxin and Persistent Organic Pollutants (DOXPOPs) Laboratory in the Organic Analytical Toxicology Branch, National Center for Environmental Health (NCEH), at the Centers for Disease Control and Prevention (CDC), where he specialized in human exposure assessment and internal dose measurements of persistent environmental pollutants using high-resolution gas chromatography/isotope-dilution high-resolution mass spectrometry techniques. For the past 23 years, Mr. Turner directed the scientists in DOXPOPs Laboratory at CDC in the development and application of state-of-the-art analytical methods for measuring environmental chemicals and their metabolites in human specimens. These methods were applied in large-scale epidemiologic studies such as the U.S. Air Force Operation Ranch Hand study; Vietnam Veteran Agent Orange study; Seveso, Italy, Dioxin Exposure and NCI Cancer studies; NIOSH Workers Dioxin Exposure study; World Trade Center Firemen; Anniston, Alabama Community Health study; and the biannual National Health and Nutrition Examination Surveys (NHANES) designed to establish background reference ranges of environmental chemicals in the U.S. population. In this position, Mr. Turner was in charge of all daily laboratory operations, including sample preparation, mass spectrometry analysis, quality control, final data review, and reporting of results for all studies conducted. Mr. Turner also served for 5 years as Chief of the Bioanalytical Research Laboratory, Analytical Biochemistry Branch, NCEH, CDC, where he directed and conducted the evaluation and development of bioanalytical methods (bioassays) for environmental toxicants, including chemicals on the EPA's list of Priority Pollutants. These techniques were applied in screening for toxicants in adulterated oil samples from the Toxic-Oil Syndrome outbreak in Spain. Additionally, Mr. Turner served for 7 years as Chief of the National Health and Nutrition Examination Survey (NHANES) Laboratory, Nutritional Biochemistry Branch, Clinical Chemistry Division, Bureau of Laboratories, CDC, for NHANES I and II, and served as liaison to the Toxicology Branch for NHANES II blood lead measurements. In this position Mr. Turner supervised the laboratory analysis of all NHANES urine and serum specimens for all clinical/nutritional analytes performed at CDC utilizing a wide range of analytical techniques (spectrophotometry, fluorometry, immunoassays, bioassays, enzymatic assays, atomic absorption spectroscopy, and flame photometry) and was responsible for the laboratory quality control, data review, and reporting of results. Mr. Turner is the author or co-author of more than 80 scientific papers, 12 book chapters, and more than 70 scientific presentations, 54 of which were published as short papers in *Organohalogen Compounds*.

Academic Credentials & Professional Honors

M.S., Biological Sciences, Georgia State University, 1970

Prior Experience

Supervisory Research Microbiologist, GS-14, Chief, Dioxin and Persistent Organic Pollutants (DOXPOPs) Laboratory, Organic Analytical Toxicology Branch (OAT), Division of Laboratory Science (DLS), National Center for Environmental Health (NCEH), 1997-2010

1986-1997 Supervisory Research Microbiologist, GS-13, Chief, Dioxin Sample Preparation Laboratory and Data Handling Activity within the Dioxin and Persistent Organic Pollutants (DOXPOPs) Laboratory

Project Coordinator, National Health and Nutrition Examination Survey III (NHANES III) Serum Cotinine Project (Phase I - 1988 to 1991); Toxicology Branch, Division of Environmental Health Laboratory Sciences, Center for Environmental Health and Injury Control

Supervisory Research Microbiologist, GS-13, Chief, Bioanalytical Research Laboratory, Analytical Biochemistry Branch, Division of Environmental Health Laboratory Sciences, Center for Environmental Health and Injury Control, 1981-1986

Supervisory Research Microbiologist, GS-13, Chief, Technical Services Section and Supervisor, Reference Laboratory, Nutritional Biochemistry Branch, Clinical Chemistry Division, Bureau of Laboratories, 1978-1981

Supervisory Research Microbiologist, GS-12, Chief, HANES Laboratory, Nutritional Biochemistry Branch, Clinical Chemistry Division, Bureau of Laboratories, 1975-1978

Acting Branch Chief, HANES Laboratory, Nutritional Biochemistry Branch, Clinical Chemistry Division, Bureau of Laboratories, 1976-1977

Supervisory Research Microbiologist, GS-11, Supervisor, HANES Laboratory, Nutritional Biochemistry Branch, Clinical Chemistry Division, Bureau of Laboratories, 1974-1975

Publications

Needham LL, Grandjean P, Heinzow B, Jorgensen PJ, Nielsin F, Patterson DG Jr, Sjodin A, Turner WE, Weihe P. Partition of environmental chemicals between maternal and fetal blood tissues. *Environmental Science and Technology*. DOI: 10.1021/es1019614 Dec 2010.

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Mocarelli P, Gerthoux PM, Patterson DG Jr, Milani S, Limonta G, Bertona M, Signorini S, Tramacere P, Colombo L, Crespi C, Brambilla P, Sarto C, Carreri V, Sampson EJ, Turner WE, Needham LL. Dioxin exposure, from infancy through puberty, produces endocrine disruption and affects human sperm quality. *Environmental Health Perspectives* 2008; 116:70-77.

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