

DONALD G. PATTERSON JR.

Donald G. Patterson Jr. earned his BA degree from the University of Northern Colorado and his Ph.D. in Organic Chemistry from Arizona State University. Following three years of post-doctorate research with Professor Carl Djerassi at Stanford University, he joined the Toxicology Branch at the Centers for Disease Control and Prevention (CDC) in 1979. He is currently a member of the Senior Biomedical Research Service within the Organic Analytical Toxicology Branch within the Division of Laboratory Sciences at CDC.

His current interests include the development and application of new and novel methods for sensitive, specific, fast, and accurate quantitative analysis for environmentally significant compounds in human tissues. These human biomonitoring methods generally involve the use of isotope-dilution high resolution mass spectrometry coupled with various other techniques; such as multidimensional gas chromatography, liquid chromatography, capillary electrophoresis, and supercritical fluid extraction. In addition, his recent research interests have centered on the application of time-of-flight mass spectrometry to human biomonitoring studies by interfacing TOF/MS to fast gas chromatography and comprehensive multidimensional (GCxGC) gas chromatography. The goal of this research is to dramatically increase the laboratory throughput and thereby reduce the cost of large scale human exposure assessment for epidemiologic studies designed to assess any potential human health effects from exposure to environmentally significant chemicals.

Dr. Patterson has applied these methods (in collaboration with State Health Departments; other U.S. Government Agencies; and Government Agencies of other Countries) to a large number of epidemiologic health assessment studies including among others: Agent Orange exposure in Vietnam veteran ground troops; U.S. Air Force Operation Ranch Hand Vietnam Veterans (actually sprayed Agent Orange); Times Beach, Missouri dioxin exposure; dioxin half-life studies in humans; various occupational exposures and cancer mortality; Seveso, Italy dioxin exposure; herbicide sprayers; endometriosis and breast cancer in women; Great Lakes fish eaters exposure; residents exposed to incineration products; and pesticide exposure to farmers and their families.

He has authored and co-authored more than 300 journal articles as well as 10 book chapters. He has been a keynote or plenary speaker at a number of international meetings. He has received numerous awards, including: The U.S. Public Health Service's Superior Service Award for "Outstanding Scientific Research which Substantially Contributed to a National Public Health Policy for Dioxin Exposure"; and the Secretary of Health and Human Services Special Recognition Award to his research group "In Recognition of a Significant Public Health Accomplishment and an Extraordinary Group Effort in the Development of a Viable Method for Measuring Dioxin in Human Serum". He has received an Honorary Doctorate of Philosophy (Honoris Causa) in Environmental Chemistry which was presented by the Faculty of Chemistry at Stockholm University, Stockholm, Sweden. Dr. Patterson is the recipient of the 2001 Harvey W. Wiley Award for "Significant Contributions to Analytical Science Through Your Work in Developing State-of-the-Art Methods for Determining Ultra-Trace Concentrations of Toxic Environmental Contaminants" presented by the International Association of Official Analytical Chemists.