

- **Title**

Understanding and Using EPA's Consolidated Human Activity Database (CHAD)

- **Names and affiliations for instructors**

Thomas McCurdy and Dr. Shi Liu, Exposure Modeling Research Branch, U.S. EPA

Dr. Stephen Graham, Ambient Standards Group, U.S. EPA

- **Contact information for lead instructor**

Thomas McCurdy

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- **Brief biography for each instructor**

Thomas McCurdy, Exposure Modeling Research Branch, Human Exposure and Atmospheric Sciences Division, National Exposure Research Laboratory, U.S. EPA

Mr. McCurdy is the original Principle Investigator (PI) for CHAD. He is also the PI for many EPA time-series human exposure simulation models that have been conducted over the years. Mr. McCurdy is interested in exposure and dose metrics and how they affect the structure and logic of human exposure modeling.

Shi Liu, Ph.D., Exposure Modeling Research Branch, Human Exposure and Atmospheric Sciences Division, National Exposure Research Laboratory, U.S. EPA

Dr. Liu is the add-on Principle Investigator (PI) for CHAD. Dr. Liu is the architect for designing and implementing CHAD Explorer. Dr. Liu is interested in effective and powerful data-mining for efficient modeling of contaminant exposure and comprehensive understanding of the health risk of such exposure based on broad knowledge on biomedicine and environmental sciences.

Stephen Graham, Ph.D., Ambient Standards Group, Health and Environmental Impacts Division, Office of Air Quality Planning and Standards, U.S. EPA

Dr. Graham is the original PI for SHEDS-Air Toxics, an EPA time-series human exposure simulation model that uses CHAD as a model input. In general, he is interested in exposure and dose metrics, particularly how they relate to anatomy, physiology, and behaviors of humans and how they affect the structure and logic of exposure models. Dr. Graham currently provides exposure research support for the APEX model development and applications to selected National Ambient Air Quality Standards.

- **Description**

The course is intended to provide attendees with knowledge pertaining to the content and development of CHAD, and how its human activity data are used in time-series human exposure simulation models. The course will be “real-time” where U.S. population subgroups are defined “on the fly” and their activity data downloaded into a “flat file” useful with a number of exposure models. Examples of statistical analyses that have previously been accomplished with the CHAD database will also be discussed. (Papers discussing these analyses will be provided to attendees upon signup and at the session.) Finally, a new version of CHAD, called CHAD Explorer, will be discussed and used to set up population cohorts for modeling inputs.

- **Target audience**

Exposure modelers and those analysts who are interested in undertaking statistical analyses of U.S. time use data.

- **Course level**

Introductory to intermediate.

- **Prerequisites or expected proficiency**

None

- **Number of students**

10 to 20

- **Course length**

Half-day course.