

- **Title**

Introductory instruction in use of new dietary exposure and risk assessment software tools with the capacity to reflect unique populations:

DRG: Tool for simulating dietary survey records for use in a customized dietary exposure analysis.

CDAS: Dietary exposure analysis software with the capacity to use new dietary databases created with the DRG.

- **Names and affiliations for instructors**

Christine Chaisson, The LifeLine™ Group

Elizabeth Dederick, The LifeLine™ Group

Annie Chaisson, The LifeLine™ Group

- **Contact information for lead instructor**

Christine Chaisson

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- **Brief biography for each instructor**

Christine F. Chaisson, Ph.D.

The LifeLine™ Group

Dr. Christine F. Chaisson has been developing probabilistic models related to exposure and risk assessment for two decades. Dr. Chaisson worked at EPA (Acting Chief of Toxicology), as a consultant to industry (co-founder of TAS), and as now as Director of The LifeLine Group, developing models and new approaches to the challenges involved with understanding how people are exposed to chemicals and the potential consequences of those exposures. The models being presented in this workshop were designed to address the problem of having so few dietary survey databases available to the assessor, and dealing with the inherent age of the data and limited relevance to some subpopulations. Dr. Chaisson's experience in the food industry provided a recognition that there was an abundance of data available about food and eating habits, but no way to incorporate it in the models. These models provide a new approach to solve that problem.

Elizabeth Dederick, Ph.D.

The LifeLine™ Group

Dr. Elizabeth Dederick is a modeler for The LifeLine Group™. Her work with The LifeLine Group™ entails software design and testing and development of training resources for LifeLine™ tools. She has been involved in designing an exposure assessment software tool that will estimate exposure to toxic substances from artisan practices. Dr. Dederick recently completed her Ph.D. at the Johns Hopkins School of Public Health in the Department of Health Policy and Management where her research involved characterizing unique exposure scenarios specific to vulnerable subpopulations. During her years at Johns Hopkins, Dr. Dederick worked as an intern at the Natural Resources Defense Council and at the US Environmental Protection Agency in the Office of Prevention, Pesticides and Toxic Substances.

Annie Chaisson, M.P.H., R.D.

The LifeLine™ Group

Ms. Annie Chaisson is a Nutritionist for The LifeLine™ Group. She has worked with the LifeLine™ Group primarily as a part of the development team to construct the Dietary Record Generator™ (DRG); providing input into the model design and parameters relevant to dietary intake. In addition she has applied these tools to real life situations through the Tribal LifeLine™ Project. Her work with these tools has resulted in the construction of population specific dietary databases which can be applied in exposure assessments for focused populations. Ms. Chaisson completed her graduate education in public health nutrition and clinical dietetics at the University of North Carolina at Chapel Hill School of Public Health in 2004.

- **Description**

People are likely to be exposed to toxic chemicals through their everyday activities such as eating and drinking. Chemical exposure assessment models are used to estimate exposure to chemicals in the diet. However, dietary models using data from conventional databases are not equipped to estimate exposure from foods consumed by all subpopulations. Focused populations such as tribes and traditional communities are not represented by conventional databases and are therefore not represented when using conventional exposure assessment tools. A new software tool, called the LifeLine Dietary Record Generator™ (DRG) transforms information about food and dietary habits brought to it by the user into a file of dietary records that can be imported into risk assessment and other nutritional profile software. The DRG facilitates the use of dietary profile information relevant to unique population groups, and provides the opportunity to upgrade or amend existing databases as better information becomes available or food availability and habits change due to economics, global warming or other factors. Another new tool, called the LifeLine Customized Dietary Assessment Software™ model, uses customized dietary records created by the DRG to generate dietary exposure and risk estimates.

The objective of this course is to introduce participants to these new software tools. A brief conceptual overview of dietary exposure, the significance of unique diet patterns and a description of the tools is followed by an interactive training session where participants practice using the software. Upon completion of the course, students will have familiarity with the concept of unique dietary patterns and the ability to assess them with new software tools to estimate dietary exposure.

- **Target audience**

This course would benefit exposure and risk assessors who deal with dietary exposure and environmental scientists, nutritionists, public health professionals, and tribal representatives who are interested in research and development of dietary pathways and characterization and categorization of unique dietary habits and unique populations. Likewise this course would be of interest to exposure scientists who conduct research on dietary exposure and attempt to capture diet data in surveys and field studies.

- **Course level**

Beginner to Intermediate

- **Prerequisites or expected proficiency**

Familiarity with spreadsheet applications (i.e., Microsoft Excel).

- **Number of students**

No minimum to 30

- **Course length**

One half day.