T8.2 Yang, S.; University of Maryland; sungpal2002@hotmail.com. **THE IMPACT OF MEDIA CREDIBILITY ON RISK PERCEPTION: MODERATING VARIABLE ANALYSIS OF INVOLVEMENT IN THE RISK OF A POTENTIAL TERRORIST ATTACK.**

For the purpose of this study, this study aims to explore how perceived involvement in risk of a potential terrorist attack (PTA) moderates the impact of source credibility of the media (i.e., local TV news, newspaper, and the Internet) on personal risk perception about PTA (i.e., feeling of dread and uncontrollability). Previous studies (e.g., McCallum, Hammond, & Covello, 1991; Trumbo & McComas, 2003) on source credibility and risk perception have suggested that risk perception can be influenced by involvement in the risk. Participants for a survey were students (n = 186) taking a basic communication course in the University of Maryland. To sum up the results, the main effect of source credibility was statistically significant ($t = 3.042$, beta = .416, $p < .01$) for predicting feeling of dread with other variables held constant; the interaction between involvement and source credibility was statistically significant for both hierarchical regression models, feeling of dread ($t = -.2914$, beta = -.398, $p < .01$) and feeling of uncontrollability ($t = -.2487$, beta = -.338, $p < .05$).

T6.5 Yang, Y.C., Xu, X., Wang, S.W., Georgopoulos, P.G.; Computational Chemodynamics Laboratory, Environmental and Occupational Health Sciences Institute, UMDNJ — R.W. Johnson Medical School & Rutgers University; panosg@fidelio.rutgers.edu. **INCORPORATION OF INTER- AND INTRAINDIVIDUAL VARIABILITY IN CHLOROFORM PBPK MODEL WITH INHALATION AND DERMAL ABSORPTION.**

Physiologically based pharmacokinetic model (PBPK) modeling offers a rational basis for the extrapolation of toxicokinetic data from acute, high dose experiments in animals, to chronic, low dose exposures in human. A general drawback of PBPK modeling is the demand of extensive set of parameters. Typically, physiological, anatomical and physicochemical parameters are often typical or mean literature values, and are assumed fixed for model development and application. PBPK models are often optimized by adjusting certain parameters to experimental data while 'fixing' others many of which are not know with accuracy in vitro. This approach does not incorporate physiological and biochemical uncertainties and the presence of inter- and intraindividual variability. The present study aims to incorporate estimates of this variability in the formulation of the PBPK model for chloroform. There are many datasets available that describe variability of physiological and anatomical attributes within the general population. Age and gender depended mathematical regression models are typically used for population exposure modeling. However, there is no simple way to describe variability in biochemical processes, due to the lack of appropriate data. Bayesian methods can be applied to partially overcome limitations in availability. In this case study, time-series of exhaled breath measurements are used to assess inhaled and dermal exposures from use of chlorinated drinking water. A chloroform PBPK model with distributed parameter description of skin transport is used to incorporate inter- and intraindividual variability by developing posterior distributions of metabolism-related parameters using a Markov Chain Monte Carlo (MCMC) with these new data sets. Age and gender depended deterministic equations and subject-specific information are used to calculate physiological parameters.

M24.3 Yiin, J.H., Stayner, L.T., Steenland, N.K., Bailey, C.R., Smith, R.J., LeMasters, G.K.; National Institute for Occupational Safety and Health; jcy5@cdc.gov. **EXPOSURE TO DIESEL EXHAUST AND RISK OF LUNG CANCER IN THE TRUCKING INDUSTRY.**

A quantitative exposure-response analysis of diesel exhaust and lung cancer among workers in the trucking industry was conducted with a new exposure model developed by the Environmental Protection Agency (EPA). To estimate past exposures, EPA generated 2,500 diesel particulate matters (DPM) for each calendar year from 1950 to 1990 and for each of the four exposed job categories plus the nonexposed. Logistic regression relating lung cancer risk and cumulative diesel particulate matters and adjusting for smoking status, age at death, and reported asbestos exposure was used. The means of the 2,500 annual job-specific DPM were used for exposure estimates in the exposure-response analyses. As a sensitivity analysis, Monte Carlo simulations using the full distributions of these DPM were conducted. Using the new exposure model, the estimated cumulative exposures to diesel exhaust for all job categories were significantly lower than those previously estimated by Steenland et al. The estimated excess risks, however, were similar. For a male truck driver exposed to 5 ìg/m3 of diesel particulate mass, the estimated lifetime excess risk of lung cancer in the current analysis was 1.9%, compared to 1.6% in the previous study.

WRT1.2 Yoe, C.; College of Notre Dame of Maryland; cyoe1@comcast.net. **INTERNATIONAL RISK ANALYSIS TRAINING NEEDS.**

The risk analysis paradigm is an essential component of a modern food safety system. It is also essential to international trade. A safe domestic food supply and active participation in international trade are in the best interests of every nation on the planet. To successfully establish the use of risk analysis as part of an efficient, modern food safety system, there are four things that are essential: knowledge of the risk analysis paradigm; an environment that supports risk analysis; modern food safety infrastructure; and, stakeholder involvement. Those nations with the available resources have been able to provide for these four components. Developing nations are at a serious disadvantage in establishing the risk analysis paradigm due to a lack of the resources. Numerous efforts to build capacity in risk analysis in developing countries have been initiated, one of their focal points has been on providing basic training in the use of risk analysis. International risk analysis training needs are immense and the surface has only been scratched by training efforts to date. The needs of the countries are varied. The challenges of in-country training are significant. There is tremendous potential for leveraging of the skills and resources of the various training interests.

W12.2 Yoe, C.E.; College of Notre Dame of Maryland; cyoe1@comcast.net. **INTERIM OBSERVATIONS ON THE PRACTICE OF MICROBIOLOGICAL RISK ASSESSMENT.**

Formal microbiological risk assessment is relatively new. Ten years ago the risk assessment community recognized that the chemical risk assessment model would be difficult to apply to microbiological food safety problems. Risk assessment for an inert, uniformly distributed chemical that could cause adverse human health effects, often cancers, after a lifetime of exposure was very different from the risk assessment required when the hazard was alive, able to amplify and die, often clumping in its occurrence and able to cause a variety of adverse human health effects with one exposure. A great deal of experience has been gained through the completion of several major risk assessments that the Interagency Risk Assessment Consortiums (RAC) member agencies have conducted. EPA funded a research project to interview some of the key participants in these risk assessments in order to compile some of the primary lessons learned from the first five federal microbiological risk assessments (MRA). This presentation discusses issues that cut across many if not all microbiological risk assessments. The issues have been organized, somewhat arbitrarily, into eight categories: the general microbiological risk assessment framework, farm-to-table models, risk profiling, data and assumptions, sensitivity, documentation and review, risk communication, and risk management. The issues discussed in each category are presented for their practical value to those who practice MRA and those who would develop guidance on the conduct of MRA.

W2.3 Yokota, F., Thompson, K.M., Hammitt, J.K.; Office of Management and Budget, Harvard University; fyokota@omb.eop.gov. **OPTIMAL STOPPING STRATEGY FOR TIERED CHEMICAL TESTING: A VALUE OF INFORMATION APPROACH.**

In December 2000, the EPA initiated the Voluntary Children's Chemical Evaluation Program (VCCEP), a tiered chemical risk evaluation program, by asking manufacturers to voluntarily sponsor toxicological testing of 23 chemicals selected for the pilot phase. After each tier EPA will make a determination about whether the available information "adequately assess[es] the potential risks to children." However, the VCCEP program currently does not have clearly defined criteria to determine when information is adequate. How should EPA determine that information is adequate? How much should uncertainty about risk be reduced before action is taken? Value of information (VOI) analysis is a decision analytic approach for evaluating the increase in welfare from making better management decisions through collecting additional information. Since a stated goal of the program is to "ensure that health effects and exposure data are made available to allow EPA and others to evaluate the risks of these chemicals so that mitigation measures may be taken as appropriate," the paper will explore how the application of a VOI framework can provide some guidance to decision makers in determining when to require additional information. The paper will model how toxicological and exposure data collected through the VCCEP may be used to inform risk management decisions and explore the optimal stopping criteria where Tier 1 screening data have been collected. Tier 1 data are used to characterize the prior distribution of risk, and a threshold analysis of the posterior distribution given potential higher tier test results will determine the conditions (e.g., level of exposure to the chemical, cost of control) under which VOI exceeds the cost of the testing program.

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