

## **Making Sense of the Numbers: An Introduction to Bayesian Decision Analysis**

### ***1-Day Professional Development Conference***

Have you ever wondered how you can incorporate your professional judgment into decision making for exposure assessment? Perhaps you do this every day, but how confident are you? Bayesian Decision Analysis provides a mechanism for explicitly incorporating professional judgment into this decision-making process. Bayesian techniques can be used to formally combine our professional judgment regarding a particular exposure and its uncertainty along with the statistical analysis of current exposure data.

This one-day professional development course will provide an overview of the Bayesian framework of decision analysis for application to exposure assessment data. Participants will be introduced to Bayesian techniques and methods using practical hands-on workshops including statistical software for decision making.

**Speaker:**

Paul Hewett, PhD, CIH      Founder and President, Exposure Assessment Solutions, Inc.

**Executive Royal Inn  
Edmonton, Alberta  
December 8, 2011**

# PROFESSIONAL DEVELOPMENT CONFERENCE

Thursday December 8, 2011 (8:00 – 5:00) – Registration/Breakfast (7:30 - 8:00 am)  
*Making Sense of the Numbers: An Introduction to Bayesian Decision Analysis*

## ABOUT THE CONFERENCE

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### Objectives:

1. To review the use of Industrial Hygiene statistics as they relate to OELs.
2. To understand the use of Bayesian statistics in decision making for Industrial Hygiene.
3. To integrate Bayesian Decision Analysis in the AIHA Exposure Assessment Model.
4. To participate in practical workshops to apply Bayesian Decision Analysis.

### Target Audience:

Persons working in Alberta in the fields of industrial hygiene, health, and safety, responsible for collecting, analyzing and interpreting statistics for decision making.

It is strongly recommended that participants bring personal laptop computers for which they have administrative rights to the conference. Flash drives with freeware and demo software will be provided for installation. Alternatively, prior to the conference, IT representatives can download and install a demo version of the software at: <http://www.oesh.com/x%20Software/IHDA.php>.

## ABOUT THE SPEAKER

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### Dr. Paul Hewett, PhD, CIH

Paul Hewett, PhD, CIH is the founder and President of Exposure Assessment Solutions, Inc. Previously, he worked for 25 years as an industrial hygienist for NIOSH, in the Division of Respirable Disease Studies, where he specialized in the measurement of pneumoconiosis producing dusts. Dr. Hewett received a MS in industrial hygiene from the University of Central Missouri and a PhD in industrial hygiene from the University of Pittsburgh, School of Public Health in 1991, and is certified by the American Board of Industrial Hygiene. He is the author of numerous articles and chapters on exposure assessment and statistics for industrial hygienists, as well as past chair of the AIHA Exposure Assessment Strategies Committee and recipient of the Edward J. Baier Technical Achievement Award for his work applying Bayesian statistics to decision making in occupational exposure assessment.

# SYMPOSIUM AGENDA

Thursday December 8, 2011 (7:30 – 5:00)

## CONFERENCE SCHEDULE

|                     |  |
|---------------------|--|
| 7:30 am – 8:00 am   | Continental Breakfast and Registration   |
| 8:00 am – 8:15 am   | Welcome and Opening Remarks  |
| 8:15 am – 10:00 am  | <b>Introduction, Review of IH Statistics, Bayesian Methods for IH</b>                      |
| 10:00 am - 10:30 am | Morning Break  |
| 10:30 am – 12:00 pm | <b>Bayesian Calculations, Decision Analysis and Workshop</b>                               |
| 12:00 pm – 1:00 pm  | Lunch  |
| 1:00 pm – 2:00 pm   | <b>Informative Priors, Parameter Space and Workshop</b>                                    |
| 2:00 pm – 3:15 pm   | <b>Integrating BDA into the AIHA Exposure Assessment Model, PPE Selection and Workshop</b> |
| 3:15 pm – 3:30 pm   | Afternoon Break  |
| 3:30 pm – 4:15 pm   | <b>Censored Data and Workshop</b>  |
| 4:15 pm – 4:30 pm   | <b>EU Control Banding and Pharmaceutical Hazard Classes</b>                                |
| 4:30 pm - 5:00 pm   | <b>Analysis of Student Datasets and Closing Remarks</b>                                    |

*Certification Maintenance Points are pending approval.*

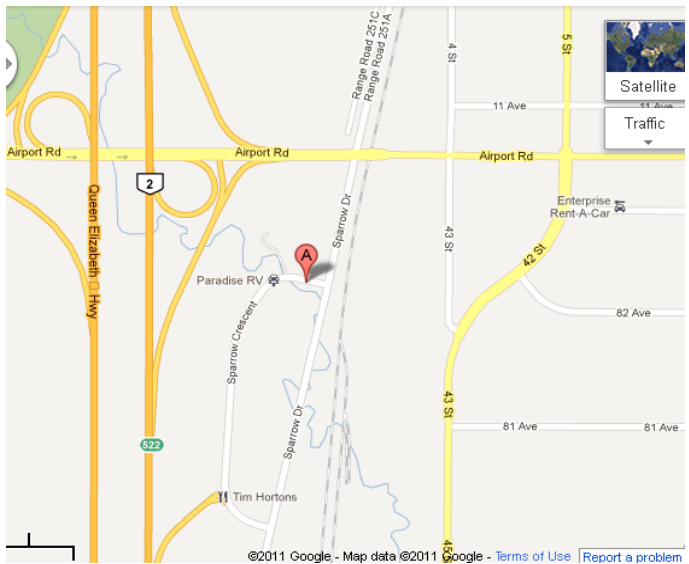
## FACILITY AND HOTEL INFORMATION

### Executive Royal Inn Leduc-Nisku

8450 Sparrow Drive,  
Leduc, Alberta T9E 7G4

Toll Free: 1-888-202-3770

- <http://www.executivehotels.net/edmontonairportleduchotel/>
- To receive the AIHA corporate rate of \$139/night, call the hotel prior to November 16, 2011. Quote group #4591
- Complementary shuttle to/from airport



Food (breakfast, lunch and snacks) and beverages (coffee, tea, juice, pop) are included in the registration fee.

## REGISTRATION AND PAYMENT

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|                      |  |               |  |
|----------------------|--|---------------|--|
| <b>Name:</b>         |  | <b>Title:</b> |  |
| <b>Organization:</b> |  |               |  |
| <b>Address:</b>      |  |               |  |
| <b>Phone:</b>        |  | <b>Fax:</b>   |  |
| <b>E-mail:</b>       |  |               |  |

*Check applicable boxes.*

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|--|----------------------------------|
| <b>Making Sense of the Numbers: An Introduction to Bayesian Decision Analysis<br/>(December 8, 2011)</b> |                                  |
|  | Local Section Member (\$ 250.00) |
|  | Non-member (\$ 275.00)           |
|  | Student (\$200.00)               |

### To Register and pay by Cheque:

Send Completed Registration Form and Cheque payable to:

AIHA – Alberta Section  
 C/O Moira Botham, Cenovus Energy  
 421 – 7th Avenue SW, Calgary AB T2P 0M5  
 Tel. (403) 766-3294 Fax (403) 351-1287  
 E-mail: [moira.botham@cenovus.com](mailto:moira.botham@cenovus.com)

### To Register and Pay On-line visit:

<http://www.aiha-ab.com/>

(there is an additional processing fee for online payments)

**REGISTRATION DEADLINE: November 24<sup>th</sup>, 2011**