

**Workshop on Acute Chemical Safety Testing: Advancing *In Vitro* Approaches and Humane Endpoints for Systemic Toxicity Evaluations**

**National Institutes of Health (NIH) Natcher Conference Center**

**February 6 – 7, 2008**

*Workshop Agenda and Topics*

**Day 1            Wednesday, February 6, 2008**

**0800            Registration**

**0830            Opening Session - Welcoming Remarks**

*William Stokes, D.V.M., DACLAM, Director NICEATM, Executive Director, ICCVAM*

*Marilyn Wind, Ph.D., CPSC, Chair, ICCVAM*

*Thomas Hartung, M.D., Ph.D., Director, ECVAM*

*Hajime Kojima, Ph.D., Director, JaCVAM*

**Workshop Objectives**

*William Stokes, D.V.M., DACLAM*

**Session 1        Acute Systemic Toxicity: Public Health Significance and Regulatory Testing Needs**

*Co-chairs:        William Stokes, D.V.M., DACLAM (NIEHS)*

*Marilyn Wind, Ph.D. (CPSC)*

**0900            Public Health Perspective of Acute Poisoning**

Daniel Cobaugh, PharmD., DABAT, Director of Research and Program Development, American Society of Health-System Pharmacists (ASHP) Research and Education Foundation, Silver Spring, MD

**0930            Regulatory Needs and Uses for Acute Systemic Toxicity Data**

Amy Rispin, Ph.D., Senior Scientist, Field and External Affairs Division, Office of Pesticide Programs, EPA

**Session 2        Acute Systemic Toxicity: Human and Animal Assessments, Biomarkers, and Key Pathways**

*Co-Chairs:        Debbie McCall (EPA)*

*Thomas Hartung, M.D., Ph.D. (ECVAM)*

**0950            Data Currently Collected During Acute Systemic Toxicity Tests**

Gary Wnorowski, B.A., M.B.A., LAT, President, Eurofins Product Safety Laboratories

**1010            Break**

- 1030 Quantifying Evident Toxicity for the Fixed Dose Procedure**  
Robert Guest, B.Sc., Head of Alternative and Acute Toxicology, Safepharma Laboratories
- 1050 Clinical Biomarkers Used to Diagnose and Treat Acute Poisoning in Humans**  
Frank Paloucek, Pharm.D. DABAT, FASHP, Director of Residency Programs, College of Pharmacy, University of Illinois at Chicago
- 1120 Clinical Biomarkers Used to Diagnose and Treat Acute Poisoning in Animals**  
Steven Hansen, D.V.M., DABT, DABVT, Senior Vice President, ASPCA Animal Poison Control Center, University of Illinois at Urbana-Champaign
- 1150 Lunch**
- 1250 Methodologies for Collecting Clinical Biomarker Data in Laboratory Animals**  
Karen Steinmetz, Ph.D., DABT, Director, Mammalian Toxicology Dept., Biosciences Division, SRI International
- 1310 Non-Invasive and Minimally Invasive Techniques for Measuring Physiological Parameters in Laboratory Rodents**  
Kathleen Murray, D.V.M., M.S., DACLAM, Senior Director, Animal Program Management, Charles River Laboratories
- 1335 Break**
- 1350 Concurrent Breakout Group Discussions**
- a. Breakout Group 1: Key Pathways for Acute Systemic Toxicity**  
*Co-chairs: Daniel Acosta, Ph.D., Dean, College of Pharmacy, University of Cincinnati*  
*Frank Paloucek, PharmD., DABAT, FASHP, Director of Residency Programs, College of Pharmacy, University of Illinois at Chicago*  
*Recorders: David Allen, Ph.D., Integrated Laboratory Systems, Inc.*  
*Raymond Tice, Ph.D., Deputy Director, NICEATM, NIEHS*
- b. Breakout Group 2: Current Acute Systemic Toxicity Injury and Toxicity Assessments**  
*Co-chairs: A. Wallace Hayes, Ph.D., DABT, FATS, Flbiol, Science Advisor and Visiting Scientist, Harvard School of Public Health*  
*Daniel Marsman, D.V.M., Ph.D., DABT, Section Head, Animal Welfare and Alternatives, Procter & Gamble*  
*Recorders: Michael Paris, Integrated Laboratory Systems, Inc.*  
*Judy Strickland, Ph.D., DABT, Integrated Laboratory Systems, Inc*

**1520 Break**

**1535 Concurrent Breakout Group Discussions (continued)**

**1700 Breakout Groups Adjourn**

**1715 Breakout Group Co-chairs meet with Organizing Committee**

**Close of Day 1**

- Day 2**                    **Thursday, February 7, 2008**
- 0800**                    **Registration**
- 0830**                    **Plenary Session - Discussion of Conclusions and Recommendations Reached by Breakout Groups 1 & 2**  
*Co-Chairs: William Stokes, D.V.M., DACLAM, NIEHS/NICEATM*  
*Marilyn Wind, Ph.D., CPSC*
- 0830**                    **a. Breakout Group 1: Key Pathways for Acute Systemic Toxicity**  
*Co-chairs: Daniel Acosta, Ph.D.*  
*Frank Paloucek, PharmD. DABAT, FASHP*
- 0850**                    **b. Breakout Group 2: Current Acute Systemic Toxicity Injury and Toxicity Assessments**  
*Co-chairs: A. Wallace Hayes, Ph.D., DABT, FATS, Flbiol*  
*Daniel Marsman, D.V.M., Ph.D., DABT*
- Session 3**            **Humane Endpoints**  
*Co-Chairs: Masih Hashim, Ph.D. (EPA)*  
*Cassandra Prioleau, Ph.D. (CPSC)*
- 0910**                    **The Concept of Humane Endpoints and Their Identification: Application for Acute Systemic Toxicity Testing**  
 William Stokes, D.V.M., DACLAM, NIEHS, Director, NICEATM
- 0930**                    **Opportunities for Detecting Pain and Distress Associated with Acute Systemic Toxicity**  
 Steven Niemi, D.V.M., DACLAM, Director, Center for Comparative Medicine, Massachusetts General Hospital
- 1000**                    **Break**
- Session 4**            **State of the Science: Using *In Vitro* Methods to Predict Acute Systemic Toxicity**  
*Co-Chairs: Steven Reynolds, Ph.D. (NIOSH)*  
*Hajime Kojima, Ph.D. (JaCVAM)*
- 1015**                    **The Future of Toxicology as a Predictive Science**  
 Melvin Andersen, Ph.D., DABT, Director, Division of Computational Biology, The Hamner Institutes for Health Sciences
- 1045**                    **Recommendations from the ICCVAM-NICEATM International Workshop on *In Vitro* Methods for Assessing Acute Systemic Toxicity**  
 A. Wallace Hayes, Ph.D., DABT, FATS, Flbiol, Science Advisor and Visiting Scientist, Harvard School of Public Health

1105 **Current ICCVAM Recommendations for the Use of *In Vitro* Test Methods to Estimate Acute Systemic Toxicity**  
Marilyn Wind, Ph.D., CPSC

1125 **The ACuteTox Project: Optimization and Prevalidation of an *In Vitro* Test Strategy for Predicting Human Toxicity**  
Thomas Hartung, M.D., Ph.D., Director, ECVAM

1145 **Using High Throughput Screening (HTS) to Identify Predictive *In Vitro* Biomarkers for Acute Systemic Toxicity**  
Raymond Tice, Ph.D., Deputy Director, NICEATM, NIEHS

1205 **Lunch**

1300 **Concurrent Breakout Group Discussions**

a. **Breakout Group 3: Identifying Earlier Humane Endpoints for Acute Systemic Toxicity Testing**

*Co-chairs: Helen Diggs, D.V.M., M.Ed., SACATM member; Director, Office of Laboratory Animal Care, University of California, Berkeley*

*Steven Niemi, D.V.M., DACLAM, Director, Center for Comparative Medicine, Massachusetts General Hospital*

*Recorder: David Allen, Ph.D., Integrated Laboratory Systems, Inc.*

b. **Breakout Group 4: Application of *In Vivo* Mode of Action and Mechanistic Information to the Development and Validation of *In Vitro* Methods for Assessing Acute Systemic Toxicity**

*Co-chairs: Melvin Anderson, Ph.D., DABT, Director of the Division of Computational Biology, The Hamner Institutes for Health Sciences*

*Eugene Elmore, Ph.D., Project Scientist, Department of Radiation Oncology, University of California, Irvine*

*Recorder: Michael Paris, Integrated Laboratory Systems, Inc.*

c. **Breakout Group 5: Industry Involvement in Test Method Development, Validation, and Use**

*Co-chairs: Robert Scala, Ph.D., DABT, DATS, Consultant*

*William Stott, Ph.D., DABT, Senior Scientist, Toxicology and Environmental Research and Consulting, The Dow Chemical Company*

*Recorder: Judy Strickland, Ph.D., DABT, Integrated Laboratory Systems, Inc.*

- 1420            **Break**
- 1435            **Concurrent Breakout Group Discussions (continued)**
- 1535            **Break**
- 1550            **Plenary Session - Discussion of Conclusions and Recommendations Reached  
by the Breakout Groups**  
*Co-Chairs: William Stokes, D.V.M., DACLAM, NIEHS/NICEATM  
Marilyn Wind, Ph.D., CPSC*
- 1550            a. **Breakout Group 3: Humane Endpoints for Acute Systemic Toxicity  
Testing**  
*Co-chairs: Helen Diggs, D.V.M., M.Ed.  
Steven Niemi, D.V.M., DACLAM*
- 1610            b. **Breakout Group 4: Application of *In Vivo* Mode of Action and  
Mechanistic Information to the Development and Validation of *In Vitro*  
Methods for Assessing Acute Systemic Toxicity**  
*Co-chairs: Melvin Andersen, Ph.D., DABT  
Eugene Elmore, Ph.D.*
- 1630            c. **Breakout Group 5: Industry Involvement in Test Method Development,  
Validation, and Use**  
*Co-chairs: Robert Scala, Ph.D., DABT, DATS  
William Stott, Ph.D., DABT*
- 1650            **Closing Comments**  
Marilyn Wind, Ph.D., CPSC, Chair, ICCVAM  
William Stokes, D.V.M., DACLAM, Director NICEATM, Executive  
Director, ICCVAM
- 1700            **End of Meeting**