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

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

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

Lunch

Concurrent Breakout Group Discussions

   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

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

      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