St. Louis Union Station Marriott

Annual Meeting

October 24–28, 2009

St. Louis, Missouri

St. Louis Union Station Marriott

EMS President:
Priscilla K. Cooper

Program Chair:
Michael J. Plewa

Plenary Lecturers:
David J. Brusick
James E. Cleaver
David M. DeMarini
Tom E. Ellenberger
Sheila M. Galloway

James M. Gentile
Philip C. Hanawalt
Yi Lu
Martina L. Veigl
Michael D. Waters

Genomics in the Environmental Century
## Sponsors of the 40th Annual Meeting

### Platinum

<table>
<thead>
<tr>
<th>Sponsor</th>
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<td>American Chemical Council Ethylene Oxide Panel Toxicology Research Task Group</td>
<td>National Institute of Environmental Health Sciences, NIH Grant No. 1 R13 ES018023-01</td>
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<td>American Chemical Council Olefins Panel Ethylene/Propylene Work Group (Olefins Panel E/PWG)</td>
<td>Office of Rare Diseases, NIH Office of Research in Women’s Health, NIH</td>
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<td>Covance Inc.</td>
<td>Research Corporation for Science Advancement</td>
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<td>ILSI-HESI DNA Adducts Project Committee</td>
<td>U.S. Department of Homeland Security</td>
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<td>U.S. Environmental Protection Agency</td>
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<td>National Center for Toxicological Research, U.S. FDA</td>
<td>U.S. Food and Drug Administration Grant No. 1 R13FD003830-01</td>
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<td>BioReliance Corporation</td>
<td>Litron Laboratories</td>
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<td>ILSI-HESI, Project Committee on Relevance and Follow-up of Positive Results in In Vitro Genetic Toxicity (IVGT) Testing</td>
<td>The Procter &amp; Gamble Company</td>
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<tr>
<td>Genetic Toxicology Association</td>
<td>Society of Toxicology</td>
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Genomics in the Environmental Century

St. Louis, Missouri

40th Annual Meeting Program

St. Louis Union Station Marriott
St. Louis, Missouri, U.S.A.
October 24–28, 2009

Program Chair: Michael J. Plewa, Ph.D.

Abstracts printed in Environmental and Molecular Mutagenesis
Volume 50, Number 7

The Environmental Mutagen Society was founded in 1969 and is incorporated under the laws of the District of Columbia. Its purpose is to encourage the study of mutagens in the human environment, particularly as they may affect public health, and to engage in and sponsor research and the dissemination of information related to mutagens. Membership is open to all interested scientists.

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TABLE OF CONTENTS

Meeting Overview .................................................. 2–3
General Information ................................................ 4–9
Meeting Agenda ...................................................... 10–27
  Saturday .......................................................... 10–11
  Sunday .............................................................. 11–15
  Monday .............................................................. 16–21
  Tuesday ............................................................. 21–24
  Wednesday ........................................................ 24–27
Exhibits ................................................................. 29–31
Maps ................................................................. 32

SATURDAY, OCTOBER 24, 2009

7:00 AM–6:30 PM  GRAND BALLROOM FOYER
Registration

8:00 AM–12:05 PM  GRAND BALLROOM C
SATURDAY WORKSHOP 1: Bacterial Mutagenicity Screening for Discovery
  Support and Drug Candidate Selection

10:00 AM–12:30 PM  WABASH CANNONBALL, 3rd FL.
EMS Executive Board Meeting

1:00 PM–4:30 PM  FRISCO, 3rd FL.
EMS Council Meeting

1:00 PM–4:30 PM  GRAND BALLROOM C
SATURDAY WORKSHOP 2: Gene Mutation Assays Based on the Endogenous
  Pig-A Locus

4:45 PM–6:00 PM  GRAND BALLROOM C
PLENARY LECTURE 1: National Science Education Policy
  (40th Anniversary Event)

6:00 PM–7:30 PM  REGENCY BALLROOM
Welcome Reception and Student and New Investigator Poster Session

SUNDAY, OCTOBER 25, 2009

7:00 AM–5:00 PM  GRAND BALLROOM FOYER
Registration

7:00 AM–8:30 AM  GRAND BALLROOM D
BREAKFAST MEETINGS
  Heritable Mutation and Disease SIG
  Epigenetics SIG
  Transgenic & In Vivo Mutagenesis SIG

8:30 AM–12:00 NOON  ILLINOIS CENTRAL, 3rd FL.
  NEW YORK CENTRAL, 3rd FL.
PLENARY LECTURE 2: Past EMS Presidents Plenary Symposium

12:30 PM–1:30 PM  FRISCO, 3rd FL.
COMMITTEE MEETINGS
  2010 Program Committee (First Meeting)
  Publication Policy Committee

MONDAY, OCTOBER 26, 2009

7:00 AM–6:00 PM  GRAND BALLROOM FOYER
Registration

7:00 AM–8:30 AM  GRAND BALLROOM F
BREAKFAST MEETINGS
  DNA Repair and Mutagenic Mechanisms SIG
  New Technologies SIG

8:30 AM–7:30 PM  BURLINGTON ROUTE, 3rd FL.
  REGENCY BALLROOM
Exhibit Hall Open

8:30 AM–5:30 PM  GRAND BALLROOM D
  Networking Room Open

8:30 AM–11:30 AM  GRAND BALLROOM F
SYMPOSIUM 4: Genetic Polymorphisms in Metabolism of
  Xenobiotics: Implications for Health Risk Assessment of Drugs and
  Environmental Agents

8:30 AM–11:30 AM  GRAND BALLROOM C
SYMPOSIUM 5: The Comet Assay: Theory and Application Studies on the
  Public Health and the Environment

11:30 AM–12:45 PM  GRAND BALLROOM C
LUNCH MEETINGS
  Student and New Investigator Brunch
  Executive Board Meeting
  EMM Editorial Board

12:00 NOON–1:00 PM  NEW YORK CENTRAL, 3rd FL.
  WABASH CANNONBALL, 3rd FL.
  COLORADO EAGLE, 3rd FL.
COMMITTEE MEETING
  Hollaender Committee

1:00 PM–3:00 PM  GRAND BALLROOM F
SYMPOSIUM 6: Genetic Toxicology in the 21st Century

FRISCO, 3rd FL.
WABASH CANNONBALL, 3rd FL.
WABASH CANNONBALL, 3rd FL.
1:00 PM–3:00 PM
SYMPOSIUM 7: Environmental Effects on the Germline: Classic Genetics
Meets Epigenetics
GRAND BALLROOM C

3:15 PM–4:30 PM
PLATFORM SESSION 1: DNA Damage/Repair
GRAND BALLROOM F

3:15 PM–4:30 PM
PLATFORM SESSION 2: Toxicogenomics Gene Expression
GRAND BALLROOM C

4:30 PM–5:30 PM
PLENARY LECTURE 3: The Structural Logic of DNA Repair Enzymes
GRAND BALLROOM C

5:30 PM–7:30 PM
POSTER SESSION 2 AND EXHIBITS
[Even Numbered Abstracts Attended]
REGENCY BALLROOM

7:30 PM–8:30 PM
COMMITTEE MEETINGS
Awards and Honors Committee
Frisco, 3rd Fl.
Education, Student and New Investigator Affairs Committee
Wabash Cannonball, 3rd Fl.
Public Relations and Communications Committee
Texas Special, 3rd Fl.

TUESDAY, OCTOBER 27, 2009

7:00 AM–4:30 PM
GRAND BALLROOM FOYER
Registration

7:00 AM–8:30 AM
BREAKFAST MEETINGS
EMS Executive Board
Colorado Eagle, 3rd Fl.
Molecular Epidemiology SIG
Illinois Central, 3rd Fl.
Risk Assessment SIG
Burlington Route, 3rd Fl.

8:30 AM–11:30 AM
Exhibit Hall Open
REGENCY BALLROOM

8:30 AM–5:45 PM
Networking Room Open
GRAND BALLROOM D

8:30 AM–10:30 AM
SYMPOSIUM 8: The DNA Damage Response As a Therapeutic Target
GRAND BALLROOM F

8:30 AM–10:30 AM
SYMPOSIUM 9: Aneuploidy: Cancer Cause or Consequence?
GRAND BALLROOM C

10:30 AM–11:30 AM
EMS Business Meeting
GRAND BALLROOM F

11:30 AM–12:30 PM
LUNCH MEETING
Women in the EMS SIG
New York Central, 3rd Fl.

12:30 PM–1:30 PM
PLENARY LECTURE 4: DNAzyme and Aptamer Sensors for On-Site and Real-Time Detection of a Broad Range of Environmental Toxins
GRAND BALLROOM F

1:30 PM–3:30 PM
SYMPOSIUM 10: Assessing the Relative Cancer Risks of Genotoxic and Non-Genotoxic Exposures in Light of Mixed Mechanisms of Action
GRAND BALLROOM C

1:30 PM–3:30 PM
SYMPOSIUM 11: Development and Application of Rapid Detection Devices for Environmental Toxins
GRAND BALLROOM F

3:45 PM–5:45 PM
SYMPOSIUM 12: Advanced Technologies for Cancer Epidemiology
GRAND BALLROOM C

3:45 PM–5:45 PM
SYMPOSIUM 13: Epigenome and the Environment: From Understanding the Mechanisms to Risk Assessments
GRAND BALLROOM F

6:30 PM–7:00 PM
Cash Bar/Networking
REGENCY BALLROOM

7:00 PM–11:45 PM
EMS Banquet
Awards Presentation by President Priscilla K. Cooper
Alexander Hollaender Award, EMS Service Award, and EMS Award
EMS Officers

Marilyn J. Aardema, Ph.D. (2009)
P.J. Brooks, Ph.D. (2009)
Peter M. Glazer, M.D., Ph.D. (2009)
John A. Tainer, Ph.D. (2009)
Olga Kovalchuk, Ph.D. (2011)
Karen M. Vasquez, Ph.D. (2011)
Andrew B. Buermeyer, Ph.D. (2011)
Krista L. Dobo (2012)
Patricia A. Escobar, Ph.D. (2012)
Francesco Marchetti, Ph.D. (2012)
Thomas E. Wilson, M.D., Ph.D. (2012)

EMS Councilors 2009–2012


Program Committee

Michael J. Plewa, Ph.D., Chair
Diana Anderson, M.Sc., Ph.D.
William W. Au, Ph.D.
Jack B. Bishop, Ph.D.
David A. Eastmond, Ph.D.
Patricia A. Escobar, Ph.D.
Glenda J. Gentile
James Gentile, Ph.D.
Helena Groot de Restrepo, Ph.D.
Philip C. Hanawalt, Ph.D.
Kathleen A. Hill, Ph.D.
George R. Hoffmann, Ph.D.
Nagalaksmi Keshava, Ph.D.
Olga Kovalchuk, Ph.D.
Mats Ljungman, Ph.D.
Brinda Mahadevan, Ph.D.
Mugimane Manjanatha, Ph.D.
Ofelia A. Olivero, Ph.D.
Janice M. Pluth, Ph.D.
W. David Sedwick, Ph.D.
Barbara S. Shane, Ph.D.
Ronald D. Snyder, Ph.D.
Steve S. Sommer, M.D., Ph.D.
Radim J. Sram, M.D., D.Sc.
Joann B. Sweasy, Ph.D.
Karen M. Vasquez, Ph.D.
Martina L. Veigl, Ph.D.
Elizabeth D. Wagner, Ph.D.
Jonathan B. Ward, Jr., Ph.D.
Paul A. White, Ph.D.
Richard D. Wood, Ph.D.
Carole L. Yauk, M.Sc., Ph.D.
Robert R. Young

40th Anniversary Subcommittee

James Gentile, Ph.D., Co-Chair
Andrew J. Wyrobek, Ph.D., Co-Chair
Jack B. Bishop, Ph.D.
Priscilla K. Cooper, Ph.D.
David M. DeMarini, Ph.D.
Bevin P. Engelward, Sc.D.
Ofelia A. Olivero, Ph.D.
Barbara S. Shane, Ph.D.
Graciela Spivak, Ph.D.
John S. Wassom
EMS Committee Meetings

The EMS committees are active throughout the year and have at least one organized meeting during the conference. The committees are meeting on Sunday and Monday, as noted in the program. Members are encouraged to be involved in a committee.

The Committee meetings will be held in the conference center. Access these rooms via the corridor beside the hotel front desk. See diagram on page 32.

EMS Special Interest Groups—SIGs

The breakfast meetings of the Society SIGs are a time-tested favorite of the Annual Meetings. The format provides free-form discussions and short presentations of the key challenges. The SIGs provide a casual way for young investigators and seasoned researchers to interact. The SIG breakfast meetings are scheduled Sunday through Tuesday, as noted in the program. The Women in EMS SIG is presenting a Lunchtime Meeting on Tuesday at 11:30 AM. Separate registration is required for the SIG meetings.

The SIG meetings will be held in the conference center. Access these rooms via the corridor beside the front desk. See diagram on page 32.

Student and New Investigator Poster Session and Welcome Reception

The Welcome Reception will take place at 6:00 PM on Saturday in the Regency Ballroom. The Student and New Investigator Poster Session is part of the Welcome Reception. All students and new investigators presenting during the meeting should put their posters on display.

This session highlights the research of student and new investigator attendees and provides an additional opportunity for them to present and discuss their research, in addition to the full poster sessions.

Town Hall Meeting

Wednesday, October 28
12:10 PM–1:15 PM

The Town Hall Meeting will be a discussion forum led by EMS President, Priscilla K. Cooper, EMS Past President, Andrew J. Wyrobek, and members of the Executive Board serving as panelists. The 2009 Town Hall Meeting will update the membership on the progress of the strategic direction that began last year. This provides an important opportunity for the EMS membership to give input into the future direction of our Society.
Sponsored Events

SATURDAY, OCTOBER 24, 2009

SATURDAY WORKSHOP 1: BACTERIAL MUTAGENICITY SCREENING FOR DISCOVERY SUPPORT AND DRUG CANDIDATE SELECTION
Contribution Sponsor: sanofi aventis

SATURDAY WORKSHOP 2: GENE MUTATION ASSAYS BASED ON THE ENDOGENOUS PIG-A LOCUS
Contribution Sponsors: ILSI-HESI, Project Committee on Relevance and Follow-up of Positive Results in In Vitro Genetic Toxicity (IVGT) Testing, Litron Laboratories, and sanofi aventis

STUDENT AND NEW INVESTIGATOR POSTER SESSION
Contribution Sponsor: Genetic Toxicology Association

SUNDAY, OCTOBER 25, 2009

PLENARY LECTURE 2: PAST EMS PRESIDENTS
PLENARY SYMPOSIUM
Contribution Sponsor: Office of Rare Diseases, NIH

SYMPOSIUM 1: INTRINSIC GENOMIC INSTABILITY FROM NATURALLY OCCURRING DNA STRUCTURES
Contribution Sponsor: Office of Rare Diseases, NIH

SYMPOSIUM 2: MUTAGENIC MODE(S) OF ACTION AND THEIR APPLICATION IN CANCER RISK ASSESSMENT
Primary Sponsor: U.S. Environmental Protection Agency

SYMPOSIUM 3: THE NEXT 50 YEARS OF RESEARCH IN GERM CELL MUTAGENESIS
Contribution Sponsor: Office of Rare Diseases, NIH

MONDAY, OCTOBER 26, 2009

SYMPOSIUM 4: GENETIC POLYMORPHISMS IN METABOLISM OF XENOBIOTICS: IMPLICATIONS FOR HEALTH RISK ASSESSMENT OF DRUGS AND ENVIRONMENTAL AGENTS
Contribution Sponsor: Office of Rare Diseases, NIH

SYMPOSIUM 6: GENETIC TOXICOLOGY IN THE 21ST CENTURY
Contribution Sponsor: Research Corporation for Science Advancement

SYMPOSIUM 7: ENVIRONMENTAL EFFECTS ON THE GERMLINE: CLASSIC GENETICS MEETS EPIGENETICS
Contribution Sponsors: National Institute of Allergy and Infectious Diseases, NIH and Office of Rare Diseases, NIH

PLENARY LECTURE 3: THE STRUCTURAL LOGIC OF DNA REPAIR ENZYMES
Contribution Sponsor: Office of Rare Diseases, NIH

TUESDAY, OCTOBER 27, 2009

SYMPOSIUM 8: THE DNA DAMAGE RESPONSE AS A THERAPEUTIC TARGET
Contribution Sponsor: National Institute of Allergy and Infectious Diseases, NIH and Office of Rare Diseases, NIH

SYMPOSIUM 9: ANEUPLOIDY: CANCER CAUSE OR CONSEQUENCE?
Contribution Sponsor: Office of Rare Diseases, NIH

SYMPOSIUM 11: DEVELOPMENT AND APPLICATION OF RAPID DETECTION DEVICES FOR ENVIRONMENTAL TOXINS
Primary Sponsor: U.S. Department of Homeland Security

SYMPOSIUM 13: EPIGENOME AND THE ENVIRONMENT: FROM UNDERSTANDING THE MECHANISMS TO RISK ASSESSMENTS
Contribution Sponsor: National Institute of Allergy and Infectious Diseases, NIH and Office of Rare Diseases, NIH
St. Louis, Missouri, U.S.A. • October 24–28, 2009

WEDNESDAY, OCTOBER 28, 2009

SYMPOSIUM 15: WOMEN IN ENVIRONMENTAL MUTAGEN SOCIETY SPECIAL INTEREST GROUP: WOMEN’S HEALTH ISSUES: DIAGNOSIS AND TREATMENT IN THE 21ST CENTURY

Contributing Sponsors: National Institute of Environmental Health Sciences, NIH and Office of Research in Women’s Health, NIH

SYMPOSIUM 17: USE OF DNA ADDUCT DATA IN RISK ASSESSMENT: CONTEXT IS EVERYTHING!

Contributing Sponsors: American Chemical Council Ethylene Oxide Panel Toxicology Research Task Group, American Chemical Council Olefins Panel Ethylene/Propylene Work Group (Olefins Panel E/PWG), and ILSI-HESI DNA Adducts Project Committee

GENERAL MEETING SPONSORS

Amgen

BioReliance Corporation

Covance Inc.

Elsevier

Johnson & Johnson PRD (OMP2319)

Lhasa Limited

National Center for Toxicological Research, U.S. FDA

National Institute of Environmental Health Sciences, NIH Grant No. 1 R13 ES018023-01

The Procter & Gamble Company

Society of Toxicology

U.S. Department of Homeland Security

U.S. Food and Drug Administration Grant No. 1 R13FD003830-01

STUDENT AND NEW INVESTIGATOR TRAVEL AWARDS

National Center for Toxicological Research, U.S. FDA

National Institute of Environmental Health Sciences, NIH Grant No. 1 R13 ES018023-01
Welcome to the 40th EMS Annual Meeting
The EMS has a long and notable history, starting with its founding in 1969 by such distinguished scientists as Drs. Alexander Hollaender, Joshua Lederberg, James Crow, James Neel, William Russell, Heinrich Malling, Frederick J. de Serres, and Matthew Meselson, among others. The Society was founded to provide a forum for the establishment and support of scientists in the field of environmental mutagenesis. The Society held its first Annual Meeting on March 22–25, 1970 in Washington, D.C. The initial focus of the EMS was on germ-cell mutagenesis. Today the EMS is the primary professional society for scientists involved in understanding mechanisms of DNA repair and mutagenesis, the consequences of mutation such as cancer, and the evaluation of risk from genotoxic agents for mutagenesis, carcinogenesis, or birth defects and other disorders.

Highlights
The meeting will officially open on Saturday with a session focused on the future of EMS and its role in national science education policy. As a scientific society we must play a role in helping America become scientifically literate. On Sunday the Plenary Symposium will feature presentations from past EMS presidents representing academia, government, and industry. The anniversary bash will begin just before the evening banquet on Tuesday, October 27. At the banquet presentations on the founding of EMS, a slide show of past meetings, and a champagne toast to EMS will follow. After the presentation of EMS awards we will continue with light-hearted reminiscences of EMS founders Alexander Hollaender and Frits Sobels. The banquet will conclude with a perspective on the future of science and the importance of EMS. But wait! The fun is just beginning! We will have a band for your musical enjoyment and a raffle for one dance with the “EMS President of your choice.”

As we celebrate this momentous occasion, you may want to consider purchasing a t-shirt ($15) or beaker ($10) as a token of your participation. These items are available at the registration desk.

Registration Hours
Registration is located in the Grand Ballroom Foyer.

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<tr>
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<tr>
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<td>Wednesday</td>
<td>7:00 AM–12:00 NOON</td>
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Exhibit and Poster Hours
Exhibits and Posters are located in the Regency Ballroom.

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<td>Tuesday</td>
<td>8:30 AM–11:30 AM</td>
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Author Attended Poster Hours

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<td>Sunday</td>
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<td>Odd numbered abstracts attended</td>
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<tr>
<td>Monday</td>
<td>5:30 PM–7:30 PM</td>
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<tr>
<td>Even numbered abstracts attended</td>
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Poster Presentations

Poster sessions provide an opportunity for attendees to connect with authors and engage in discussions about the work presented. All posters will be on display Sunday through Tuesday and the authors will be available during their assigned poster session. Don’t miss this chance to meet with the authors and learn more about the work they are presenting.

The Exhibit Hall is open for attendees to view posters in advance of the attended poster sessions. Appointments can be made to meet with exhibitors and/or poster presenters during the non-attended hours. If you desire to meet during the non-attended hours, please make arrangements with the poster presenter or exhibitor.

Career Counseling/Resume Review

Federation of American Societies for Experimental Biology (FASEB) is providing free career counseling and resume reviews for EMS members and meeting attendees. This is one of the many benefits that EMS receives through its membership with FASEB. Please stop by the FASEB booth to schedule an appointment.
Photography Policy during Scientific Sessions
Photography of scientific presentations is prohibited without advance specific consent of the presenter(s)/author(s). Session Chairs are asked to strictly enforce this policy and individuals who do not comply will be asked to leave the session. In addition, cameras and recording devices are prohibited in the Exhibit Hall.

First Aid and Security
The St. Louis Union Station Marriott has equipped each meeting room with a house phone for use in case of emergency. If you need medical or security assistance pick up the house phone and dial 0, the hotel operator will connect you to the correct department.

Internet Access at the Annual Meeting
EMS appreciates how important it is for attendees to stay connected to daily responsibilities in their home locations while attending the meeting. Access to the Internet will be available in the Ballroom Complex during registration hours. In addition, the St. Louis Union Station Marriott offers High-Speed Wireless Internet Access in the guest rooms and public spaces (excluding meeting rooms) for a daily rate of $12.95.

Conference Site
The St. Louis Union Station Marriott, is located at 1820 Market Street, St. Louis, Missouri. It occupies one of the city’s most spectacular buildings, a grandiose rail terminal built in 1894. The 539-room hotel dominates only a portion of the terminal, which is now an 11-acre dining, shopping, and entertainment complex. Grand Hall, the former station’s waiting room, has a breathtaking 65-ft-high barrel vault, Romanesque arches, elaborate frescoes highlighted in gold leaf, a lounge exhibiting beautiful craftsmanship, and an infamous “Whispering Arch” carrying conversations 40 feet away.

The Union Station Marriott is a smoke-free hotel. There are 50 retail shops and restaurants in the attached Union Station complex, along with a man-made one-acre lake. The Marriott is also conveniently located near major tourist destinations including Botanical Gardens, the St. Louis Zoo, St. Louis Art Museum, and Forest Park, most of which are easily accessible via the metro.

The scientific sessions are located in the Ballroom Complex, which is accessible from the mall level. See the diagram on page 32.

Ground Transportation
Taxi service is available in front of the hotel. The average fee to the airport is $45.

Hotel Parking
The St. Louis Union Station Marriott offers both self parking and valet parking. Self parking is offered at $14 per day and valet parking is $27 per day.

Meals
A light breakfast is provided for registrants of the Special Interest Group meetings, held Sunday–Tuesday. You are on your own for lunch and dinner each day with the exception of Tuesday’s Annual Banquet, which will include dinner and dancing. There are several restaurants located in the hotel and the attached Union Station complex. There are also several restaurants within walking distance or a short taxi ride.

Future Meetings
EMS 41st Annual Meeting
October 23–27, 2010
Omni Fort Worth Hotel
Fort Worth, Texas

EMS 42nd Annual Meeting
October 15–19, 2011
Hilton Montreal Bonaventure
Montreal, Quebec, Canada
# Agenda

**Saturday, October 24**

### 7:00 AM–6:30 PM

**REGISTRATION**

Grand Ballroom Foyer

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tr>
<td>8:00 AM</td>
<td><strong>SATURDAY WORKSHOP 1</strong></td>
<td>Grand Ballroom C</td>
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<td>8:00 AM</td>
<td><strong>BACTERIAL MUTAGENICITY SCREENING FOR DISCOVERY SUPPORT AND DRUG CANDIDATE SELECTION</strong></td>
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<td>Separate Registration Required</td>
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<td>Organized by: New Technologies Special Interest Group</td>
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<td><strong>Chairpersons:</strong> Patricia A. Escobar, Boehringer Ingelheim Pharmaceuticals, Inc. and Brinda Mahadevan, Schering-Plough Research Institute</td>
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<td><strong>Contributing Sponsor:</strong> sanofi aventis</td>
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<tr>
<td>8:00 AM</td>
<td>Introduction</td>
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<td>Patricia A. Escobar, Boehringer Ingelheim Pharmaceuticals, Inc.</td>
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<td>8:05 AM</td>
<td>Mini-Ames Assay in Six Well Plates</td>
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<td>John J. Nicolette, Abbott Laboratories</td>
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<td>8:30 AM</td>
<td>Cross-Validation Results from the</td>
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<td>Satin G. Sawant, Amgen, Inc.</td>
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<tr>
<td>8:55 AM</td>
<td>Bacterial Mutagenicity Screening Technology (BioLum Ames)</td>
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<tr>
<td>Michelle Kenyon, Pfizer Global Research and Development</td>
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<tr>
<td>9:20 AM</td>
<td>The Merck Experience with the Ames MPF Assay and its Correlation with the Standard Ames and the 5-Fluorouracil (FU) Assay</td>
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<td>Timothy E. Johnson, Merck Research Laboratories</td>
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<tr>
<td>9:45 AM</td>
<td>The Use of Ames II™ Screening Assay for Drug Development</td>
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<td>Knut Braun, sanofi aventis</td>
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<tr>
<td>10:10 AM</td>
<td>Break</td>
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<tr>
<td>10:25 AM</td>
<td>Performance of the SOS Chromotest As an Initial Mutagenicity Screen</td>
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<tr>
<td>Laura L. Custer, Bristol-Myers Squibb</td>
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<tr>
<td>10:50 AM</td>
<td>The SOS/umu Test: Experience Screening Pharmaceutical Research Compounds</td>
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<tr>
<td>Michael O’Donnavan, AstraZeneca</td>
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</table>

### 10:00 AM–12:30 PM

**EMS EXECUTIVE BOARD MEETING**

Wabash Cannonball, 3rd Fl.

### 1:00 PM–4:30 PM

**EMS COUNCIL MEETING**

Frisco, 3rd Fl.

### 1:00 PM–4:30 PM

**SATURDAY WORKSHOP 2**

**GENE MUTATION ASSAYS BASED ON THE ENDOGENOUS PIG-A LOCUS**

Separate Registration Required

**Chairpersons:** Stephen D. Dertinger, Litron Laboratories and Robert H. Heflich, National Center for Toxicological Research, U.S. FDA

**Contributing Sponsors:** ILSI-HESI, Project Committee on Relevance and Follow-up of Positive Results in In Vitro Genetic Toxicity (IVGT) Testing, Litron Laboratories, and sanofi aventis

<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>1:00 PM</td>
<td>Welcome</td>
<td>Grand Ballroom C</td>
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<tr>
<td>Stephen D. Dertinger, Litron Laboratories and Robert H. Heflich, National Center for Toxicological Research, U.S. FDA</td>
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<tr>
<td>1:05 PM</td>
<td>Historical Perspective: From Studying PNH Etiology to Mutagenesis</td>
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<td>Russell E. Ware, St. Jude Children’s Research Hospital</td>
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<tr>
<td>1:30 PM</td>
<td>Gene Mutation Assays Based on the Endogenous Pig-A Locus: Rodent Mutation Data, Kinetics, DNA Sequencing Results</td>
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<td>Daishiro Miura, TEIJIN Pharma Limited</td>
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<tr>
<td>2:00 PM</td>
<td>Rodent RBC-Based Assay, Inter-Laboratory Trial Update</td>
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<td>Stephen D. Dertinger, Litron Laboratories and Ronald D. Fiedler, Pfizer Global Research and Development</td>
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<tr>
<td>2:30 PM</td>
<td>ILSI-HESI Perspective on Assay’s Preclinical Value</td>
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<tr>
<td>James H. Kim, ILSI Health and Environmental Sciences Institute</td>
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<td>2:45 PM</td>
<td>Break</td>
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</tbody>
</table>
3:00 PM Human Blood-Based Assay, RBCs
Vasily N. Dobrovolsky, National Center for Toxicological Research, U.S. FDA

3:30 PM PIG-A: A Novel Reporter Gene for the Molecular Epidemiology of Cancer
Vernon E. Walker, BioMosaics Inc

4:00 PM Panel Discussion

4:45 PM–6:00 PM Grand Ballroom C
PLENARY LECTURE 1
NATIONAL SCIENCE EDUCATION POLICY
(40TH ANNIVERSARY EVENT)
Chairperson: Michael J. Plewa, University of Illinois at Urbana-Champaign

4:45 PM Introductory Comments
Michael J. Plewa, University of Illinois at Urbana-Champaign

5:00 PM PL1 Rising above the Gathering Storm: Scientific Societies Must Meet the Challenge
James M. Gentile, Research Corporation for Science Advancement

6:00 PM–7:30 PM Regency Ballroom
WELCOME RECEPTION AND STUDENT AND NEW INVESTIGATOR POSTER SESSION
Contributing Sponsor: Genetic Toxicology Association

Sunday, October 25

7:00 AM–5:00 PM Grand Ballroom Foyer
REGISTRATION

7:00 AM–8:30 AM BREAKFAST MEETINGS

HERITABLE MUTATION Illinois Central, 3rd Fl.
AND DISEASE SPECIAL INTEREST GROUP
Leaders: Steve S. Sommer, MEDomics and Carole Yauk, Health Canada

EPIGENETICS Burlington Route, 3rd Fl.
SPECIAL INTEREST GROUP
Leaders: Olga Kovalchuk, University of Lethbridge and Catherine B. Klein, New York University School of Medicine

TRANSGENIC & IN VIVO New York Central, 3rd Fl.
MUTAGENESIS SPECIAL INTEREST GROUP
Leaders: Kathleen A. Hill, The University of Western Ontario and Mugimane Manjanatha, National Center for Toxicological Research, U.S. FDA

8:30 AM–12:00 NOON Grand Ballroom C
PLENARY LECTURE 2
PAST EMS PRESIDENTS PLENARY SYMPOSIUM
Chairpersons: Michael J. Plewa, University of Illinois at Urbana-Champaign and Priscilla K. Cooper, Lawrence Berkeley National Laboratory

8:30 AM Introduction
8:45 AM PL2 40 Years of Environmental Mutagenesis: What Is It and What Is It Good For?
David J. Brusick, Consultant

9:15 AM PL3 EMS and Government Scientists: A Symbiosis
David M. DeMarini, U.S. Environmental Protection Agency

9:45 AM PL4 Perspectives on DNA Repair As a Focal Point in the EMS
Philip Hanawalt, Stanford University

10:15 AM Break

10:30 AM PL5 Genomics in the Environmental Century: A Tribute to the EMS As a Society
Michael D. Waters, Integrated Laboratory Systems, Inc.

11:00 AM PL6 High Throughput Technologies: How They Drive New Conceptions of Productive Scientific Inquiry
Martina L. Veigl, Case Western Reserve University

11:30 AM PL7 Towards Understanding Differences between Rodents and Humans in Cancer Susceptibility
Sheila M. Galloway, Merck Research Laboratories

12:00 NOON–1:30 PM LUNCH ON YOUR OWN

12:30 PM–1:30 PM COMMITTEE MEETINGS

2010 PROGRAM Frisco, 3rd Fl.
COMMITTEE (FIRST MEETING)
Chairperson: Jeffrey L. Schwartz, University of Washington

PUBLICATION POLICY Wabash Cannonball, 3rd Fl.
COMMITTEE
Chairpersons: Malcolm J. Lippert, Saint Michael’s College and Stephen D. Dertinger, Litron Laboratories
1:30 PM–4:30 PM
SYMPOSIUM 1
GRAND BALLROOM D

INTRINSIC GENOMIC INSTABILITY FROM NATURALLY OCCURRING DNA STRUCTURES

Chairpersons: Karen M. Vasquez, University of Texas MD Anderson Cancer Center and Joann B. Sweasy, Yale University School of Medicine

Contributing Sponsor: Office of Rare Diseases, NIH

1:30 PM
Introduction

1:34 PM S1
Transcription and “Repair” in Non-B Form DNA
Philip C. Hanawalt, Stanford University

2:02 PM S2
Non-B Form DNA and Mutagenesis
Karen M. Vasquez, University of Texas MD Anderson Cancer Center

2:30 PM 19
Methylation in CpG Repeats Can Alter Higher-Order DNA and Chromatin Structures and Cause Genetic Instability in Mammalian Cells
Wang GW, Vasquez KV. Department of Carcinogenesis, The University of Texas MD Anderson Cancer Center, Smithville, TX, United States

2:45 PM S3
Sequence Context-Dependent Pol β Mutators Identified in Human Tumors
Joann B. Sweasy, Yale University School of Medicine

3:20 PM S4
Mechanisms of Induction of Multiple Mutations by DNA Polymerases
Jan Drake, National Institute of Environmental Health Sciences

3:55 PM S5
Processing of Oxidative DNA Lesions
Susan S. Wallace, University of Vermont

1:30 PM–4:30 PM
SYMPOSIUM 2
GRAND BALLROOM F

MUTAGENIC MODE(S) OF ACTION AND THEIR APPLICATION IN CANCER RISK ASSESSMENT

Chairpersons: Nagu Keshava, U.S. Environmental Protection Agency and David A. Eastmond, University of California, Riverside

Primary Sponsor: U.S. Environmental Protection Agency

1:30 PM
Introduction: Mutagenic Modes of Action in the Context of the U. S. Environmental Protection Agency’s Carcinogenic Risk Assessment Guidelines
Nagu Keshava, U.S. Environmental Protection Agency

1:45 PM S6
Implications of DNA Adduct Dose Response for Risk Assessment
Kenneth Turteltaub, Molecular Toxicology Group, Lawrence Livermore National Laboratory

2:15 PM S7
Assessing In Vitro Dose-Response Relationships for Aneugens
David A. Eastmond, University of California, Riverside

2:45 PM S8
Characterizing Dose Response Relationships to Inform Risk Decisions
Krista L. Dobo, Pfizer Inc.

3:15 PM S9
Characterizing Multiple Modes of Carcinogenesis Using Toxicogenomics Methods
Michael D. Waters, Integrated Laboratory Systems, Inc.

3:45 PM Panel Discussion

1:30 PM–4:30 PM
SYMPOSIUM 3
GRAND BALLROOM C

THE NEXT 50 YEARS OF RESEARCH IN GERM CELL MUTAGENESIS

Chairperson: Jack B. Bishop, National Institute of Environmental Health Sciences

Contributing Sponsor: Office of Rare Diseases, NIH

1:30 PM
Welcome and Introductions
Jack B. Bishop, National Institute of Environmental Health Sciences

1:35 PM S10
The Next 50 Years in Germ Cell Mutagenesis Research?
Jack B. Bishop, National Institute of Environmental Health Sciences
2:00 PM  S11  Genome Resequencing for Germ-Cell Mutagenesis: Exploring the Full Range of Mutations  
Matthew E. Hurles, Wellcome Trust Sanger Institute  

2:45 PM  S12  Strategies in Looking for Mutations in Offspring of Cancer Survivors  
John J. Malvihill, University of Oklahoma Health Sciences Center  

3:15 PM  S13  Can Regulatory Agencies Better Use Germ Cell Mutation Data?  
Tim Singer, Health Canada  

3:45 PM  S14  Panel Discussion: Where Do We Go from Here?  
Moderator: Andrew J. Wyrobek, Lawrence Berkeley National Laboratory  
Discussion Panelists: Christopher M. Somers, University of Regina; Rosalie K. Elespuru, U.S. Food and Drug Administration; Kerry L. Dearfield, U.S. Department of Agriculture; Steve S. Sommer, MEDomics, and Yuri E. Dubrova, University of Leicester  

4:30 PM–6:30 PM  Regency Ballroom  
ATTENDED POSTER SESSION 1 AND EXHIBITS  
Presenter designated by underlined author.  

P1  Mapping Localization of Base Excision Repair Machinery to Sites of Genomic DNA Damage in Saccharomyces cerevisiae  
Morris LP, Degtareva N, Doetsch PW. Emory University, Atlanta, GA, United States  

P3  Molecular Analysis of Chd2 in Tumor Suppression  
Samann G, Venkatapathy S. University of Tennessee, Knoxville, TN, United States  

P5  Exogenous Replication Stress Induces Genome-Wide Copy Number Changes in Mitotic Human Cells  
Arlt MF, Ozdemir AC, Mulle JG, Schaibley VM, Warren ST, Wilson TE, Glover TW. 1University of Michigan, Ann Arbor, MI, United States, 2Emory University, Atlanta, GA, United States  

P7  A Novel, Defective Recombination Phenotype Specific to WRN Deficient Cells  
Rahn JJ, Della-Coletta L, Lowery M, Limanni TD, Adair GM, Nairn RS, UT MD Anderson Cancer Center, Science Park Research Division, Smithville, TX, United States  

P9  Comparative DNA Damage and Repair Kinetics Study in Mammalian Cells by Chloro-, Bromo-, and Iodoacetic Acid  
Komaki Y, Pals J, Wagner E, Marinax B, Pleva MJ. University of Illinois, Urbana, IL, United States  

P11  Development of an EGFP Reporter System to Study Homologous Recombination in Mice In Vivo  
Sukup Jackson MR, Matsuguchi T, Jonnalagadda V, Engelward B. Massachusetts Institute of Technology, Cambridge, MA, United States  

P13  Lack of Genotoxicity of Three Different Preparations of Aloe Barbadensis by the Salmonella/E. coli Mutagenicity (Ames) Assay  
Swartz CD, Recio L, Green A, Lentz C, Witt KL. 1Integrated Laboratory Systems, Research Triangle Park, NC, United States, 2National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States  

P15  Transcription-Associated Base Substitution Mutations in Yeast  
Lippert MJ, Begin KJ, Stott AR. Saint Michael’s College, Colchester, VT, United States  

P17  Bhas-42 Initiator and Promoter Cell Transformation Assay with 3-MCA and TPA  
Pant K, Bruce SW, Sly JE, Klug ML, Springer CD, Cecil MW, Hsu CS. BioReliance, Rockville, MD, United States  

P19  Cytogenetic Alterations and Changes of Global DNA Methylation Induced by Leukemogenic Chemicals In Vitro  
Ji Z, Zhang L, Smith M. Division of Environmental Health Sciences, School of Public Health, University of California at Berkeley, Berkeley, CA, United States  

P21  Evidence Suggesting That Delayed HGPRT Mutations Induced by EMS Treatment of CHO Cells Are Produced by a Different Mechanism than Early Mutations  
Perez ML, Starmato TD. Lankenau Institute for Medical Research, Wynnewood, PA, United States  

P23  N-acetyl Cysteine Protects against Ionizing Radiation-induced DNA Damage but Not against Cell Killing in Yeast and Mammals  
Reliene R, Pollard JM, Sobol Z, Trouiller B, Gatti RA, Schiestl RH. University of California Los Angeles, Los Angeles, CA, United States  

P25  Acrylamide and Glycidamide Induce cell Gene Mutations in Lung Tissue of Big Blue Mice  
Guo L, Shelton S, Moore M, Manjanatha M. National Center for Toxicological Research, Jefferson, AR, United States  

P27  AGB-PCR Measurement of K-Ras Codon 12 GAT Mutation in Rat Liver and Kidney Exposed to Aristolochic Acid  
Wang Y, Mei N, Chen T, Parsons BL. U.S. FDA, National Center for Toxicological Research, Jefferson, AR, United States  

P29  Polymorphism of NAT2 Slow Acetylator Genotypes in Pesticide Exposed and Control Population of Northern India  
Singh S, Kumar V, Thakur S, Banerjee BD, Grover SS, Rawat DS, Pasha ST, Jain SK, Rai A. 1National Institute of Communicable Diseases, Delhi, India, 2University College of Medical Sciences & GTB Hospital, University of Delhi, Delhi, India, 3National Programme for Prevention and Control of Fluorosis, Delhi, India  

P31  Benzo(a)pyrene (BP)-DNA Adduct Formation in XPA(-/-) p53(+/-) Transgenic Mice  
John K, Pratt MM, McMullen G, Poirier MC. National Cancer Institute, NIH, Bethesda, MD, United States
**P33** Molecular Evidence for DNA Damage in Chemical-Induced Bystander Effects

Asur R, Thomas R, Tucker J. Wayne State University, Detroit, MI, United States

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**P35** Reduction of Misleading (“False”) Positive Results in Mammalian Cell Genotoxicity Assays. I: Choice of Cell Type

Fowler P, Williams K, Jeffrey L, Young J, Carmichael P, Aarden M, Diembeck W, Fauz N, Harvey J, Hewitt N, Latil A, Pfuhler S, Ouedraogo G, Reisinger K, Fairley M, Kirkland D. Covance laboratories, Harrogate, United Kingdom, 2Kirkland Consulting, Harrogate, United Kingdom, 3Unilever, Sharnbrook, United Kingdom, 4The Procter & Gamble Co., Cincinnati, OH, United States, 5Beiersdorf AG, Hamburg, Germany, 6KPSS, Darmstadt, Germany, 7GSK, Ware, United Kingdom, 8Hewitt, Erzhausen, Germany, 9Pierre Fabre, Castres, France, 10Procter & Gamble, Cosmital SA, Marly, Switzerland, 11L’Oreal Life Sciences Research, Aulnay sous Bois, France, 12Henkel AG & Co KGaA, Dusseldorf, Germany, 13COLIPA, Brussels, Belgium

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**P37** Validation of a Multi-Endpoint Assay in Rats: Bone Marrow Micronucleus, Comet and Flow Cytometric Peripheral Blood Micronucleus

Bowen DE, Whitwell JH, Henderson D, Mcgarry S, Kidd D, Pearce G, Lillford L, Kirkland DJ, Torous D, Covance, Harrogate, United Kingdom, Litron Laboratories, Rochester, NY, United States

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**P39** Cytogenetic and Molecular Biomonitoring of Sprayers Exposed to Pesticides in Cotton Fields in Pakistan

Bhalli JA, Khan MQ, Khalid ZM. 1Division of Genetic and Reproductive Toxicology, National Center for Toxicology Research, Jefferson, AR, United States, 2Environmental Toxicology Lab., National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan

---

**P41** Performance Validation of the Peripheral Blood Human Lymphocyte Micronucleus Assay Using the Draft OECD 487 Guideline Reference Chemical List

Whitwell J, Smith R, Lloyd M, Allars S, Kirkland D, Covance Laboratories Ltd, Harrogate, United Kingdom

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**P43** Genotoxicity Assessment of Heavy Metal Mixtures by Lemaunor L

Cejtek P, Tkalec M, Sikic S, Tolic S, Vidakovic-Cijrek Z, Pavlica M. 1Faculty of Science, University of Zagreb, Zagreb, Croatia, 2Institute of Public Health, Zagreb, Croatia

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**P45** Metabolomics in Risk Assessment

Yulimiri SV, Sonawane B. U.S. Environmental Protection Agency, Washington, DC, United States

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**P47** Effects of High and Low LET Radiation Exposure on DNA Methylation

Goetz W, Morgan MNM, Belliveau BJ, Banks JE. University of Maryland, Department of Radiation Oncology, Baltimore, MD, United States

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**P49** Fractionated Exposure to Low Doses of Ionizing Radiation Causes Region-Specific Genetic and Epigenetic Changes in Murine Brain and Leads to Altered Behavioral Patterns


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**P51** Comparison of MicroRNA Expression Profiles from Large and Small Colony Thymidine Kinase Mutants of L5178Y Mouse Lymphoma Cells

Chen Y, Li Z, Chen T, Moore MM. U.S. FDA/NCTR, Jefferson, AR, United States

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**P53** Effect of P53 Genotype on Gene Expression Profile in Murine Testis

Kulkarni R, Petibone DM, Chang CW, Morris SM. National Center for Toxicological Research, Jefferson, AR, United States

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**P55** Comparison of the Preincubation and Plate Incorporation Methods in the MicroAmes: Lessons for Drug Discovery Screening

Wells M, Soelter SG, Schlosser MJ. Midwest BioResearch, Division of WIL Research Laboratories, Skokie, IL, United States

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**P57** Swimming in DBPS: Genotoxicity of Water Concentrates from Recreational Pools after Various Disinfection Methods

Wagner E, Liviac D, Llagasas A, Mitch W, Plewa MJ. 1University of Illinois, Urbana, IL, United States, 2Universitat Autònoma de Barcelona, Barcelona, Spain, 3Yale University, New Haven, CT, United States, 4WaterCAMPWS Center, Urbana, IL, United States

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**P59** Use of the In Vivo Comet Assay to Evaluate Methyleugenol-Induced DNA Damage in Various Tissues of the Rat

Ding W, Manjanatha M, Lyn Cook L, Bishop M, Levy D, Aidoo A. 1FDA National Center for Toxicological Research, Jefferson, AR, United States, 2FDA Center for Food Safety and Applied Nutrition, College Park, MD, United States

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**P61** The Combined In Vitro and Acellular Comet Assay: Understanding the Mechanisms of Genotoxicity in Heterogeneous In Vivo Cell Populations

Vasquez MZ, Dewhurst N. Helix3 Inc., Morrisville, NC, United States

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**P63** Development of an OECD/GLP Compliant In Vitro Micronucleus Assay in TK-6 Cells

Scott AS, Cheung JC, Coffing SC, Muehblayer PM, Schuler MS, Sobol JS, Spellman RS. Pfizer, Inc., Groton, CT, United States
P65  COLIPA Validation of the Reconstructed Human Skin Micronucleus Assay (RSMN): A Novel Micronucleus Assay in a 3D Human Skin Model
Aardema M1, Khamabatta Z., Barnett B3, Pfuhler S1, Reisinger K2, Quebraogo G1, Fauquet B2, Mun G5, Dahl E4, Curren R5, Carmichael P4, Diembeck W5, Fautz R5, Harvey J1, Hewitt N6, Latil A7, Marrec-Fairley M16. 1The Procter & Gamble Co, Cincinnati, OH, United States, 2Henkel AG & Co KGaA, Duesseldorf, Germany, 3L’Oreal, Aulnay sous Bois, France, 4In Vitro Sciences, Inc, Gaithersburg, MD, United States, 5Unilever, Sharnbrook, United Kingdom, 6Beiersdorf AG, Hamburg, Germany, 7KPSS-Kao Professional Salon Services, Darmstadt, Germany, 8GSK, Ware, United Kingdom, 9Consultant, Erzhausen, Germany, 10Pierre Fabre, Toulouse, France, 11Colipa, Brussels, Belgium

P66  Evaluation of 26 Chemicals Using Two Automated In Vitro Micronucleus Image Analysis Platforms against the Proposed OECD Guideline 487
Rubitski E, Engel M, Sherman J, Tartaro K, Wiersch C, Homiski M, Schuler M. Pfizer Global Research and Development, Groton, CT, United States

P69  Flow Cytometry Analysis of Responses in the In Vitro Micronucleus Assay
Mittelstaedt RA, Shaddock JG, Heflich RH. USFDA/National Center for Toxicological Research, Jefferson, AR, United States

P71  In Vitro Micronucleus Screening of Pharmaceutical Candidates by Flow Cytometry in Chinese Hamster V79 Cells
Nicolette J1, Bryce S2, Diehl M3, Sonders P3, Blomme EA4. 1Abbott Laboratories, Abbott Park, IL, United States, 2Litron Laboratories, Rochester, NY, United States

P73  Combining the In Vivo Comet and Micronucleus Assays: A Practical Approach to Genotoxicity Testing and Data Interpretation
Vasquez MZ. Helix3 Inc., Morrisville, NC, United States

P75  Genetic Polymorphism of Phase I Metabolizing Enzymes and Its Influence on DNA Damage in Pesticide Exposed Subjects
Singh SY, Kumar V2, Thakar S3, Banerjee BD4, Grover SS5, Rawat DS6, Pasha ST7, Jain SK8, Rai A9. 1National Institute of Communicable Diseases, Delhi, India, 2University of Medical Sciences & GTB Hospital, University of Delhi, Delhi, India, 3National Programme for Prevention and Control of Fluorosis, Delhi, India

P77  Pig-a Mutation and Micronucleus Scoring by Flow Cytometry: Integration into an Acute Dosing Schedule
Phonethepswath S1, Franklin D2, Raju S3, Torous D4, Bryce S5, Bemis J6, MacGregor J7, Dertinger S8. 1Litron Laboratories, Rochester, NY, United States, 2Toxicology Consulting Services, Arnold, MD, United States

P79  In Vitro Cytotoxicity and Genotoxicity Testing of Gold Nanoparticles
Chung YS1, Kim JE2, Lee S3, Kang JS4, Yu YM5, Park SN6. 1Medvill Research Institute, Medvill Co., Ltd., Seoul, Republic of Korea, 2National Institute of Food and Drug Safety Evaluation, Korea Food and Drug Administration, Seoul, Republic of Korea, 3Department of Biomedical Laboratory Science, Namseoul University, Cheonan, Republic of Korea

P81  Genotoxic Consequences of ABVD Treatment in Hodgkin’s Disease: Analysis of Chromosomal Aberrations by M-FISH
Frias S1, Ramos S2, Navarrete P3, Castro O4, Mendoza SP5, Molina B6, Avila S7, Largo C8, Lozano V9, Gallardo E10. 1Instituto Nacional de Pediatría, Mexico City, Mexico, 2Laboratorio Genetadi, Bilbao, Spain, 3Instituto Nacional de Cancerología, Mexico City, Mexico, 4Hospital General de México, Mexico City, Mexico

P83  Relative Mutagenicity of Cigarette Smoke Condensates in Mouse Lymphoma Cells
Guo XQ1, Verkler TL1, Mei N2, Richter PA3, Polzin GM4, Moore MM5. 1National Center for Toxicological Research, Jefferson, AR, United States, 2National Center for Chronic Disease Prevention and Health Promotion, Atlanta, GA, United States, 3National Center for Environmental Health, Atlanta, GA, United States
**Monday, October 26**

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<th>Time</th>
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<tr>
<td>7:00 AM–6:00 PM</td>
<td>Grand Ballroom Foyer</td>
<td><strong>REGISTRATION</strong></td>
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<td>7:00 AM–8:30 AM</td>
<td>Illinois Central, 3rd Fl.</td>
<td><strong>BREAKFAST MEETINGS</strong></td>
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<td><strong>DNA REPAIR AND MUTAGENIC MECHANISMS SPECIAL INTEREST GROUP</strong></td>
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<td>Leaders: Mats Ljungman, The University of Michigan Medical School and Joann B. Sweasy, Yale University School of Medicine</td>
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<td><strong>NEW TECHNOLOGIES SPECIAL INTEREST GROUP</strong></td>
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<td>Leaders: Brinda Mahadevan, Schering-Plough Research Institute and Patricia A. Escobar, Boehringer Ingelheim Pharmaceuticals, Inc.</td>
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<td>8:30 AM–7:30 PM</td>
<td>Regency Ballroom</td>
<td><strong>EXHIBIT HALL OPEN</strong></td>
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<td>8:30 AM–5:30 PM</td>
<td>Grand Ballroom D</td>
<td><strong>NETWORKING ROOM OPEN</strong></td>
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<td>8:30 AM–11:30 AM</td>
<td>Grand Ballroom F</td>
<td><strong>SYMPOSIUM 4</strong></td>
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<td><strong>GENETIC POLYMORPHISMS IN METABOLISM OF XENOBIOTICS: IMPLICATIONS FOR HEALTH RISK ASSESSMENT OF DRUGS AND ENVIRONMENTAL AGENTS</strong></td>
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<td>Chairpersons: Babasaheb R. Sonawane, U.S. Environmental Protection Agency and William Slikker, Jr., National Center for Toxicological Research, U.S. FDA</td>
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<td><strong>Contributing Sponsor: Office of Rare Diseases, NIH</strong></td>
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<tr>
<td>8:30 AM</td>
<td>S15</td>
<td>Role of Genetic Polymorphism in Metabolism of Drugs and Environmental Agents in Disease and in Health Risk Assessment Babasaheb R. Sonawane, U.S. Environmental Protection Agency</td>
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<td>8:55 AM</td>
<td>S16</td>
<td>Benzene Induced Hematotoxicity: Susceptibility Genes and DNA Repair Mechanisms LuoPing Zhang, University of California, Berkeley</td>
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<td>10:00 AM</td>
<td>S18</td>
<td>Genetic Variation at the N-acetyltransferase (NAT) Genes in Global Populations Holly Mortensen, National Center for Computational Toxicology, ORD, U.S. EPA</td>
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<tr>
<td>10:25 AM</td>
<td>S19</td>
<td>Polymorphisms in ATP-Binding Cassette (ABC) Transporters: Tangier Disease and Other High-Density Lipoprotein Deficiencies Beverly Lyn-Cook, Office of Regulatory Activities, NCTR, U.S. FDA</td>
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<tr>
<td>10:50 AM</td>
<td>S20</td>
<td>Genetic Polymorphisms and Population Distribution: Phase I and Phase II Xenobiotic Enzymes: Implications of Health Assessments Gary Ginsberg, Connecticut Department of Public Health</td>
</tr>
<tr>
<td>11:15 AM</td>
<td></td>
<td><strong>Panel Discussion</strong></td>
</tr>
<tr>
<td>8:30 AM–11:30 AM</td>
<td>Grand Ballroom C</td>
<td><strong>SYMPOSIUM 5</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>THE COMET ASSAY: THEORY AND APPLICATION STUDIES ON THE PUBLIC HEALTH AND THE ENVIRONMENT</strong></td>
</tr>
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<td></td>
<td></td>
<td>Chairperson: Diana Anderson, University of Bradford, UK</td>
</tr>
<tr>
<td>8:30 AM</td>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diana Anderson, University of Bradford, UK</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>S21</td>
<td>Overview of the Use of Comet Assay in Occupational and Environmental Human Monitoring: A Mexican Experience Emilio Rojas, Universidad Nacional Autonoma de Mexico</td>
</tr>
<tr>
<td>9:10 AM</td>
<td>S22</td>
<td>Use of Single Cell Gel Electrophoresis Assays in Human Intervention Trials for the Detection of DNA Protective Dietary Components Siegfried Knasmueller, The Medical University of Vienna, Austria</td>
</tr>
<tr>
<td>9:40 AM</td>
<td></td>
<td>Break in Exhibit Hall</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>S23</td>
<td>The Effect of Zinc Oxide and Titanium Dioxide Nanoparticles in the Comet Assay with UVA Photoactivation of Human Sperm and Lymphocytes Diana Anderson, University of Bradford, UK</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>S24</td>
<td>Human Cell Toxicogenomic Analysis of the Monohaloacetic Acid Drinking Water Disinfection By-Products Michael J. Plewa, University of Illinois at Urbana-Champaign</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>S25</td>
<td>Genomic DNA Damage and Repair Induced by Paint Thinner in Human Lymphocytes Luz Stella Hoyos, Universidad del Cauca, Colombia</td>
</tr>
<tr>
<td>10:00 AM</td>
<td></td>
<td><strong>Break in Exhibit Hall</strong></td>
</tr>
</tbody>
</table>

**8:30 AM–11:30 AM**

**Grand Ballroom C**

**SYMPOSIUM 5**

**THE COMET ASSAY: THEORY AND APPLICATION STUDIES ON THE PUBLIC HEALTH AND THE ENVIRONMENT**

Chairperson: **Diana Anderson,** University of Bradford, UK

8:30 AM

**Introduction**

Diana Anderson, University of Bradford, UK

8:40 AM

**Overview of the Use of Comet Assay in Occupational and Environmental Human Monitoring: A Mexican Experience**

Emilio Rojas, Universidad Nacional Autonoma de Mexico

9:10 AM

**Use of Single Cell Gel Electrophoresis Assays in Human Intervention Trials for the Detection of DNA Protective Dietary Components**

Siegfried Knasmueller, The Medical University of Vienna, Austria

9:40 AM

Break in Exhibit Hall

10:00 AM

**The Effect of Zinc Oxide and Titanium Dioxide Nanoparticles in the Comet Assay with UVA Photoactivation of Human Sperm and Lymphocytes**

Diana Anderson, University of Bradford, UK

10:30 AM

**Human Cell Toxicogenomic Analysis of the Monohaloacetic Acid Drinking Water Disinfection By-Products**

Michael J. Plewa, University of Illinois at Urbana-Champaign

11:00 AM

**Genomic DNA Damage and Repair Induced by Paint Thinner in Human Lymphocytes**

Luz Stella Hoyos, Universidad del Cauca, Colombia
St. Louis, Missouri, U.S.A. • October 24–28, 2009

Monday

11:30 AM–1:00 PM
LUNCH ON YOUR OWN

11:30 AM–12:45 PM
LUNCH MEETINGS
STUDENT AND NEW INVESTIGATOR BRUNCH
Chairpersons: Olga Kovalchuk, University of Lethbridge and Catherine B. Klein, New York University School of Medicine

EMS EXECUTIVE BOARD MEETING
Wabash Cannonball, 3rd Fl.

EMM EDITORIAL BOARD
Colorado Eagle, 3rd Fl.

12:00 NOON–1:00 PM
COMMITTEE MEETING
HOLLAENDER COMMITTEE
Chairperson: Mats Ljungman, The University of Michigan Medical School

1:00 PM–3:00 PM
SYMPOTISUM 6
GENETIC TOXICOLOGY IN THE 21ST CENTURY
Chairpersons: Brinda Mahadevan, Schering-Plough Research Institute and Raymond Tice, National Institute of Environmental Health Sciences
Contributing Sponsor: Research Corporation for Science Advancement

1:00 PM S26 Evolution of Genetic Toxicology from Ames to Toxicogenomics
Ronald D. Snyder, Schering-Plough Research Institute

1:25 PM S27 The Use of Quantitative High Throughput Screens (qHTS) in Genetic Toxicology
Raymond R. Tice, National Institute of Environmental Health Sciences

1:50 PM S28 Chemical and Biological Profiling Approaches for Exploring Mutagenicity and Carcinogenicity of EPA ToxCast™ Chemicals
Ann M. Richard, National Center for Computational Toxicology, ORD, U.S. EPA

2:15 PM S29 In Silico Genotoxicity Prediction in the Pharmaceutical Industry: Current Practice and Future Directions
Raymond A. Kemper, Boehringer Ingelheim Pharmaceuticals, Inc.

2:40 PM S30 Computational Approaches for Predicting Genetic Toxicity/Cancer
R. Daniel Benz, U.S. Food and Drug Administration

1:00 PM–3:00 PM
SYMPOTISUM 7
ENVIRONMENTAL EFFECTS ON THE GERMLINE: CLASSIC GENETICS MEETS EPIGENETICS
Chairpersons: Carole Yauk, Health Canada and Yuri E. Dubrova, University of Leicester
Contributing Sponsors: National Institute of Allergy and Infectious Diseases, NIH and Office of Rare Diseases, NIH

1:00 PM S31 The Hunt for Epialleles
Vardhman K. Rakyan, Barts and The London School of Medicine and Dentistry

1:45 PM S32 Human Sperm Chromosomal Damage: Causes and Consequences
Andrew J. Wyrobek, Lawrence Berkeley National Laboratory

2:10 PM S33 Transgenerational Genetic Instability and Epigenetic Effects
Yuri E. Dubrova, University of Leicester

2:35 PM S34 Histone Hyperacetylation Precedes Spermatocyte Apoptosis Induced by Methoxyacetic Acid
Michael Wade, Health Canada

3:15 PM–4:30 PM
PLATFORM SESSION 1
DNA DAMAGE/REPAIR
Chairperson: Erik Larson, Illinois State University
Platform presenter designated by underlined author.

3:15 PM 1 Role of Chromatin Remodeling in DNA Damage Responses and Tumor Suppression
Venkatachalam S, Rajagopalan S, Samaan G, Stebbins N, Donnell R. University of Tennessee, Knoxville, United States

3:30 PM 2 The Chromatin Architecture behind Somatic Hypermutation
Borchert GM, Larson ED. Illinois State University, Normal, IL, United States

3:45 PM 3 Is Ionizing Radiation Induced Microhomology Mediated End Joining Dose-Dependent?
Scuric Z, Schiestl RH. David Geffen School of Medicine at UCLA, Departments of a Pathology, Environmental Health, and Radiation Oncology, UCLA School of Public Health, Los Angeles, CA, United States
4:00 PM  4  DNA Double Strand Break Repair Pathways and Its Dependence on Cell Cycle Phases in Human Lymphoblastoid Cells
Honma M1, Takashima Y2,1, Sakuraba M1, Sakamoto H1, Koizumi T1, Hayashi M1,1.
1National Institute of Health Sciences, Tokyo, Japan, 2National Institute of Radiological Sciences, Chiba, Japan, 1Biosafety Research Center, Shizuoka, Japan

4:15 PM  5  Role of Homologous Recombination Repair in Radiosensitivity through the Cell Cycle in CHO Cells
Wilson PF, Hinz JM, Urbss SS, Nham PB, Thompson LH, Lawrence Livermore National Laboratory, Livermore, CA, United States

3:15 PM–4:30 PM  Grand Ballroom C
PLATFORM SESSION 2
TOXICOGENOMICS GENE EXPRESSION
Chairperson: James C. Fuscoe, U.S. Food and Drug Administration
Platform presenter designated by underlined author.

3:15 PM  6  Time-Course Study of MicroRNA Gene Expression in Liver of Mice Treated with One Dose of N-ethyl-N-nitrosourea
Li Z1, Shi L1, Pearce M1, Wang Y2, Guo L1, Branham WS1, Chen T1, 1National Center for Toxicological Research, Jefferson, AR, United States, 2SABiosciences Corporation, Frederick, MD, United States

3:30 PM  7  Age and Sex Differences in Hepatic Gene Expression during the Rat Life Cycle
Kwekel JC, Melvin CD, Desai VG, Branham WS, Moland CL, Han T, Fuscoe JC. National Center for Toxicological Research, US FDA, Jefferson, AR, United States

3:45 PM  8  Liver Gene Expression Changes in Mice Exposed to Acrylamide
Met N, McDaniel LP, Guo L, Dial SL, Manjunatha MG. National Center for Toxicological Research, Jefferson, AR, United States

4:00 PM  9  Activation of FA-BRCA1 Pathway by Intracellular Alcohol Metabolism: Implications for Alcohol-Related Cancers
Abraham J, Marietta C, Brooks PJ. National Institute on Alcohol Abuse and Alcoholism, Rockville, MD, United States

4:15 PM  10  Clinical Molecular Diagnosis in the Era of Massively Parallel Sequencing: A Personalized Cancer Oncology Program
Sommer S, MEDomics, Acusa, CA, United States
**P16** The Effect of Elevated Transcription Level on Gross Chromosomal Rearrangements in Yeast
Lippert MJ, Dolbeare CR, Palermo MR. Saint Michael’s College, Colchester, VT, United States

**P18** XRCC1-Mediated Single Strand Break Repair Capacity and Inflammation Associated DNA Damage
Mutamba JT, Engelward BP. MIT, Cambridge, MA, United States

**P20** Bloom Syndrome Protein: A Study of Protein Partnerships
Bergeron KL, Murphy EL, Almeida KH. Rhode Island College, Providence, RI, United States

**P22** DNA Damage Induced in AT Lymphoblastoid Cell Line by Exposure to Low-Dose Beta and Alpha Radiation
Villegas F1, Sordo M1, Benitez-Bribiesca L1, Brandan ME2, Ostrosky-Wegman P1. 1Instituto de Investigaciones Biomedicas, UNAM, Mexico City, Mexico, 2Instituto de Fisica, UNAM, Mexico City, Mexico

**P24** Chromosomal Aberrations in Mice Irradiated with Protons
Doppalapudi R, Menda S, Davis Z, Bakke J, Chang P. SRI International, Menlo Park, CA, United States

**P26** Mutagenicity of Acrylamide and Glycidamide in Rat Thyroid
McDaniel LP, Guo XQ, Doerge DR, Heflich RH, Mei N. National Center for Toxicological Research, Jefferson, AR, United States

**P28** In Vivo Comet Assay in Mouse Skin Basal Epidermal Cells
Krsmanovic L, Shi J, Paranjpe M, Bruce S. BioReliance Corporation, Rockville, MD, United States

**P30** Simultaneous Measurement of Benzo[a]pyrene-Induced pigA and lacZ Mutations, and Micronuclei in MutatMice
Lemieux CL1, Gingerich JD1, Soper LM1, Phonetheswath S2, Torous D2, Detinger S2, White PA1, Douglas GR1. 1Mechanistic Studies Division, Environmental Health Sciences and Research Bureau, Health Canada, Ottawa, ON, Canada, 2Litron Laboratories, Rochester, NY, United States

**P32** Genetic Variability of HVRI mtDNA in Cord Blood and Respiratory Morbidity in Children
Schneuwerkova J, Brudicka R, Dostal M, Sram RJ, Topinka J. Institute of Experimental Medicine ASCR, Prague, Czech Republic

**P34** Genetic Toxicology Databases and Predictive Models
Myatt GJ, Bower D, Cross KP, Quigley DP. Leadscope, Columbus, OH, United States

**P36** Reduction of Misleading (“False”) Positive Results in Mammalian Cell Genotoxicity Assays. II: Importance of Accurate Toxicity Measurement
Fowler P1, Williams K1, Jeffrey L1, Young J1, Carmichael P1, Aardema M1, Dieembecck W1, Fautz R1, Harvey J1, Hewitt N1, Latil A1, Pfuhler S1, Ouedraogo G1, Reisinger K1, Fairley M13, Kirkland D1. Covance Laboratories, Harrogate, United Kingdom, 2Kirkland Consulting, Harrogate, United Kingdom, 3Unilever, Sharnbrook, United Kingdom, 4The Procter & Gamble Co., Cincinnati, OH, United States, 5Beiersdorf AG, Hamburg, Germany, 6KPSS, Darmstadt, Germany, 7GSK, Ware, United Kingdom, 8Hewitt, Erchhausen, Germany, 9Pierre Fabre, Castres, France, 10Procter & Gamble, Cosmital SA, Marly, Switzerland, 11L’Oreal Life Sciences Research, Alunay sous Bois, France, 12Henkel AG & Co KgaA, Dusseldorf, Germany, 13COLIPA, Brussels, Belgium

**P38** Measurement of Multiple Genotoxic In Vivo Endpoints Using the Comet
Coffing SL, Dickinson DA, Engel ME, Gunther WC, Fiedler FD, O’Lone SD, Samok KE, Schuler MJ, Shatsky TJ. Traverson BA, Thiffeault CJ. Pfizer, Groton, CT, United States

**P40** A New Polymorphism in MicroRNA-Binding Site of CDKN2A and a Polymorphism of XPD in Malignant Melanoma Patients from Brazil
Goncalves FT1, Francisco G1, Souza S1, Luiz OC1, Chammas R1, Eluf-Neto J1, Gattás G1. 1Departamento de Medicina Legal, Ética Médica, Medicina Social e do Trabalho, Faculdade de Medicina da Universidade de São Paulo, São Paulo, SP, Brazil, 2Departamento de Radiologia, Faculdade de Medicina da Universidade de São Paulo, São Paulo, SP, Brazil, 3Departamento de Medicina Preventiva, Faculdade de Medicina da Universidade de São Paulo, São Paulo, SP, Brazil

**P42** In Vivo Rat Pig-a Mutation Assessment by Flow Cytometry: Inter-Laboratory Comparison of ENU Treated Rats
Fiedler RD1, Gunther WC1, Thiffeault CJ1, Shutsky TJ1, Phonethepswath S2, Franklin D2, Raja S2, Dertinger SD2. 1Pfizer Global R&D, Groton, CT, United States, 2Litron Laboratories, Inc., Rochester, NY, United States

**P44** Thalidomide Induces Germinal Mutations at Low Concentrations

**P46** Role of Altered Hepatic microRNA Expression in the Pathogenesis of Nonalcoholic Hepatosteatosis in Mice Induced by Methyl-Deficiency
Starlard-Davenport A, Tryndyak V, Beland F, Pogribny I. National Center for Toxicological Research, Jefferson, AR, United States

**P48** Radiation-Induced Age-Related Epigenetic Changes in Mouse Liver
Montgomery BA1, Koturbash F, Kovalchuk O1, Pogribny IP1. 1National Center for Toxicological Research, Jefferson, AR, United States, 2University of Lethbridge, Lethbridge, AB, Canada
P50 Germ Cell Mutations: Genetic Disease in Offspring of Cancer Survivors in Two Countries
Malschill JP, Boice JD1,2, Winther JF3, Malila N4, Olsen JH5, Labbeennake PM6, Madanath-Haruja Q1, Sankila R2, Stovall M1, Tawn E6. 1University of Oklahoma Health Sciences Center, Pediatrics-Genetics, Oklahoma City, OK, United States, 2International Epidemiology Institute, Rockville, MD, United States, 3Vanderbilt University, Department of Medicine, Nashville, TN, United States, 4Institute of Cancer Epidemiology, Danish Cancer Society, Copenhagen, Denmark, 5Institute for Statistical and Epidemiological Cancer Research, Finnish Cancer Registry, Helsinki, Finland, 6The University of Texas MD Anderson Cancer Center, Department of Radiation Physics, Houston, TX, United States

P52 Effect of p53 Genotype on Gene Expression in the Livers of ENU-Exposed Mice
Petibonne D, Kulkarni R, Chang C-W, Morris S. National Center for Toxicological Research, Jefferson, AR, United States

P54 Development of Novel Salmonella typhimurium Tester Strain YG3206 for Selective Detection of the Mutagenicity of Oxidized DNA Pyrimidines
Yamada M, Matsui K, Katafuchi A, Takamune M, Nohmi T. National Institute of Health Sciences, Tokyo, Japan

P56 Induction of an Adaptive Response to Hydrogen Peroxide in Yeast: Conditions of Induction, Time Course, and Dose-Response Relationships
Moccia AV, Laterza AM, MacNeil LK, Tartaglione JP, Hoffmann GR. College of the Holy Cross, Worcester, MA, United States

P58 Cyanogen Halide Drinking Water Disinfection By-Products
Pals J1,2, Clay P1, Komaki Y1,2, Marinass B1,2, Wagner E1, Plewa MJ1,2. 1University of Illinois, Urbana, IL, United States, 2WaterCAMPWS Center, Urbana, IL, United States

P60 Appraisal of Comet Tail Length in Pesticide Exposed Cotton Field Females during Picking Season
Ali T1, Bhalia JA2, Khan QM1. 1National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan, 2National Centre for Toxicological Research (NCTR), Jefferson, AR, United States

P62 The Comet Assay: Breaking with Tradition
Vasquez MZ. Helix3 Inc., Morrisville, NC, United States

P64 Photogenotoxicity Evaluation in the In Vitro Micronucleus Assay Using Human Peripheral Blood Lymphocytes
Farabaugh CS, Chan MM, Valliere AN, Middendorf CA, Roy SK, Stankowski Jr LF. Covance Laboratories, Inc., Vienna, VA, United States

P66 Different Approaches to Automation of the In Vitro Micronucleus Assay Using Image Analysis
Homiski M, Rubitski E, Scott A, Pfizer Global Research and Development, Groton, CT, United States

P68 Comparison of Micronucleus Induction in Duodenum, Colon and Bone Marrow in Sprague-Dawley Rats
Coffing SL, Dickinson DA, Engel ME, Thiffeault CJ, Shutsky TJ, Spellman RA, Schuler MJ. Pfizer Global Research and Development, Groton, CT, United States

P70 Flow Cytometric In Vitro Micronucleus Scoring Provides Simultaneous Mode of Action Information
Bryce S, Avlasevich S, Raja S, Torous D, Benis J, Dertinger S. Litron Labs, Rochester, NY, United States

P72 Evaluation of Proposed Cytotoxicity Endpoints for the In Vitro Mammalian Micronucleus Assay in the Presence and Absence of Cytochalasin B in CHO and TK 6 Cells
Thiffeault CJ, Boyes RW, Cheung JR, Dickinson DA, Engel ME, Sherman J, Schuler MJ, Pfizer, Groton, CT, United States

P74 Improving Genotoxicity Testing: Comet Assay with 3D Skin Models
Reisinger K1, Krul C2, Ouédraogo G1, Puhler S2, Reus A2, Zeller A3, Corvi R3, Carmichael P4, Hewitt N5, Aardema M6, Diembeck W7, Faux R8, Harvey J9, Latil A10, Marrec-Faurey M11. 1Henkel AG & Co Kgaa, Duesseldorf, Germany, 2TNO - Quality of Life, Zeist, Netherlands, 3L’Oréal, Aulnay-sous-Bois, France, 4Procter & Gamble - Cosmital SA, Marly, Switzerland, 5EC/JRC/ECVAM, Ispra, Italy, 6Unilever, Sharnbrook, United Kingdom, 7SWS, Erzhausen, Germany, 8The Procter & Gamble Co., Cincinnati, OH, United States, 9Betersdorf AG, Hamburg, Germany, 10KPSS-Kao Professional Salon Services, Darmstadt, Germany, 11GSK, Ware, United Kingdom, 12Institut de Recherche, Pierre Fabre, France, 13COLIPA, Brussels, Belgium

P76 Successful Transfer of Cytotoxicity Assessment by Flow Cytometry (FCM) Confirms Superior Reproducibility of Mitotic Index (MI) Measurements
Roberts DJ1, Spellman RA2, Sanok K1, Chen H1, Chan M1, Yurt P1, Thakur AK, Devito GL1, Murli H1, Stankowski Jr LF1. 1Covance Laboratories, Genetic & Molecular Toxicology Department, Vienna, VA, United States, 2Pfizer Global Research and Development, Groton, CT, United States

P80 Enhanced Susceptibility to Genotoxic Damage in Wistar Han Rats Compared to Fischer 344/N Rats
Hobs CA1, Recio L1, Shepard K1, Baldetti C1, Winters J1, Green A1, Allen P1, Streicker M1, Caspary W1, Witt KL1. 1Genetic Toxicology Division, Integrated Laboratory Systems, Inc., Research Triangle Park, NC, United States, 2Investigative Toxicology Division, Integrated Laboratory Systems, Inc., Research Triangle Park, NC, United States, 3Biomolecular Screening Branch, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States

P82 Technologies for Assessing Exposures and Health Risks from Hazardous Air Pollutants in Communities
Ward Jr JB1, Olague EP2. 1University of Texas Medical Branch, Galveston, TX, United States, 2Houston Advanced Research Center, The Woodlands, TX, United States
**Tuesday, October 27**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00 AM–4:30 PM</td>
<td>Grand Ballroom Foyer</td>
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<tr>
<td><strong>REGISTRATION</strong></td>
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<tr>
<td>7:00 AM–8:30 AM</td>
<td>Colorado Eagle, 3rd Fl.</td>
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<tr>
<td><strong>BREAKFAST MEETINGS</strong></td>
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<tr>
<td>8:30 AM–11:30 AM</td>
<td>Regency Ballroom</td>
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<tr>
<td>8:30 AM–5:45 PM</td>
<td>Grand Ballroom D</td>
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<tr>
<td><strong>NETWORKING ROOM OPEN</strong></td>
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<tr>
<td>8:30 AM–10:30 AM</td>
<td>Grand Ballroom F</td>
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<tr>
<td><strong>SYMPOSIUM 8</strong></td>
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<tr>
<td>THE DNA DAMAGE RESPONSE AS A THERAPEUTIC TARGET</td>
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<td>Chairpersons:</td>
<td><strong>Mats Ljungman</strong>, University of Michigan and</td>
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<td><strong>Robert G. Bristow</strong>, University of Toronto</td>
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<td>Contributing Sponsor: National Institute of Allergy and Infectious Diseases, NIH and Office of Rare Diseases, NIH</td>
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<tr>
<td>8:30 AM</td>
<td>S35 The DNA Damage Response As A Therapeutic Target</td>
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<tr>
<td>8:45 AM</td>
<td>S36 Contextual Synthetic Lethality: Exploiting Hypoxia and the DNA Damage Response for Novel Therapeutics</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>S37 Exploiting Homologous Recombination Repair Defects in Cancer Cells</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>S38 DNA Damage Mimetics: Safe Substitutes for Conventional Genotoxic Anticancer Drugs</td>
</tr>
</tbody>
</table>

**P82 Bulky DNA Adducts Induced by Tobacco Smoke and Environmental Pollutants in Mothers and Their Transplacental Transfer to the Foetus**

*Topinka J¹, Milcova A¹, Libalova H¹, Novakova Z¹, Rossner Jr P¹, Balascan F, Sram R.J.¹ Institute of Experimental Medicine ASCR, v.v.i., Prague, Czech Republic, ²Charles University, Prague, Czech Republic*
### 40th Annual Meeting of the Environmental Mutagen Society

#### Tuesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
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</thead>
<tbody>
<tr>
<td>10:15 AM</td>
<td>S39</td>
<td>The Intimate Relationship between Base Excision Repair and NAD⁺ Biosynthesis in the Response to Chemotherapy-Induced DNA Damage</td>
<td>Sobol RW, Tang J, Goellner EM, Wang X, Trivedi RN, St. Croix CM, Jelezcová E, Brown AR, University of Pittsburgh, Pittsburgh, PA, United States</td>
</tr>
<tr>
<td>10:30 AM–11:30 AM</td>
<td>Grand Ballroom F</td>
<td>EMS BUSINESS MEETING</td>
<td>Travel Awards Presented</td>
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<tr>
<td>11:30 AM–12:30 PM</td>
<td>Grand Ballroom F</td>
<td>LUNCH MEETING</td>
<td>New York Central, 3rd Fl. SPECIAL INTEREST GROUP</td>
</tr>
<tr>
<td>12:30 PM–1:30 PM</td>
<td>Grand Ballroom F</td>
<td>PLENARY LECTURE 4 (PL9)</td>
<td>DNAZYME AND APTAMER SENSORS FOR ON-SITE AND REAL-TIME DETECTION OF A BROAD RANGE OF ENVIRONMENTAL TOXINS</td>
</tr>
<tr>
<td>1:30 PM–3:30 PM</td>
<td>Grand Ballroom C</td>
<td>SYMPOSIUM 10</td>
<td>ASSESSING THE RELATIVE CANCER RISKS OF GENOTOXIC AND NON-GENOTOXIC EXPOSURES IN LIGHT OF MIXED MECHANISMS OF ACTION</td>
</tr>
</tbody>
</table>

### SYMPOSIUM 9
ANEUPLOIDY: CANCER CAUSE OR CONSEQUENCE?

Chairpersons: Maik J. Schuler, Pfizer Inc. and Ofelia A. Olivero, National Cancer Institute, NIH

Contributing Sponsor: Office of Rare Diseases, NIH

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>S40</td>
<td>Centrosomal Amplification (CA)</td>
<td>Ofelia A. Olivero, National Cancer Institute, NIH</td>
</tr>
<tr>
<td>8:50 AM</td>
<td>S41</td>
<td>Characterizing Aneugens by Flow Cytometry</td>
<td>Maik J. Schuler, Pfizer Inc.</td>
</tr>
<tr>
<td>9:10 AM</td>
<td>S42</td>
<td>Aneuploidy, Chromosome Instability and Tumor Biology: The Telomere Connection</td>
<td>Jeffrey L. Schwartz, University of Washington Medical Center</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>S43</td>
<td>Aneuploidy in Carcinogenesis: Evidence for an Unstable Tetraploid Intermediate in the Development of Cervical Cancer</td>
<td>David A. Eastmond, University of California, Riverside</td>
</tr>
<tr>
<td>9:50 AM</td>
<td>S44</td>
<td>Centrosomal Amplification Induced by Nucleoside Reverse Transcriptase Inhibitors (NRTIs) in Cultured Human Breast Epithelial MCF 10A Cells</td>
<td>Davila K,2, Yu M,3, Poirier MC, Olivero OA,1,2. 1University of Texas San Antonio, San Antonio, TX, United States, 2National Cancer Institute, Bethesda, MD, United States</td>
</tr>
<tr>
<td>10:10 AM</td>
<td>S45</td>
<td>Early and Persistent Estrogen-Induced Epigenetic Dysregulation Underlies Genome Instability in the Rat Mammary Gland</td>
<td>Kutanzki K, Koturbash I, Kovalchuk O. University of Lethbridge, Lethbridge, AB, Canada</td>
</tr>
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</table>

### SYMPOSIUM 10
ASSESSING THE RELATIVE CANCER RISKS OF GENOTOXIC AND NON-GENOTOXIC EXPOSURES IN LIGHT OF MIXED MECHANISMS OF ACTION

Chairpersons: Barbara L. Parsons, National Center for Toxicological Research, U.S. FDA and Andrew D. Kligerman, U.S. Environmental Protection Agency

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:30 PM</td>
<td></td>
<td>Introduction</td>
<td>Andrew D. Kligerman, U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>1:35 PM</td>
<td>S46</td>
<td>Theoretical Implications of Polyclonal Tumor Origin and Tumor-Associated Mutations, Which Are Not Rare Events, in Interpreting Chemical Mode of Action</td>
<td>Barbara L. Parsons, National Center for Toxicological Research, U.S. FDA</td>
</tr>
<tr>
<td>2:05 PM</td>
<td>S47</td>
<td>Genomic Instability Induced By Low-Dose Ionizing Radiation, the Oxidative Response, and Tumor Necrosis Factor-Alpha</td>
<td>Catherine F. Gibbons, U.S. Environmental Protection Agency</td>
</tr>
</tbody>
</table>
2:35 PM  S48  MicroRNA Expression and Genomic Gene Expression, Rather Than DNA Adduct and Mutation Induction, Indicate the Carcinogenic Tissue of Aristolochic Acid in Rats
  *Tao Chen*, National Center for Toxicological Research, U.S. FDA

3:05 PM  S49  Epigenetic Alterations in Radiation Induced Genomic Instability
  *Aypar U*, Morgan WF, Baulch JE. 1University of Maryland School of Medicine, Baltimore, MD, United States, 2Pacific Northwest National Laboratory, Richland, WA, United States

1:30 PM–3:30 PM  Grand Ballroom F
**SYMPOSIUM 11**

**DEVELOPMENT AND APPLICATION OF RAPID DETECTION DEVICES FOR ENVIRONMENTAL TOXINS**

*Chairperson: Lance R. Brooks, U.S. Department of Homeland Security*

**Primary Sponsor: U.S. Department of Homeland Security**

1:30 PM  S50  Rapid and Multiplex Detection of Biothreat Toxin Agents in Environmental Samples
  *Kodumudi Venkat Venkateswaran*, Radix BioSolutions

2:00 PM  S51  Introduction to the Human Micronucleus Project (HUMN)
  *Errl Zeiger*, Errl Zeiger Consulting

2:05 PM  S51a  The Micronucleus Assay in Buccal Cells As a Tool for Biomonitoring Genetic Damage in Human Populations
  *Nina Holland*, School of Public Health, University of California, Berkeley

2:35 PM  S51b  Requirements for Automation of the Human Micronucleus Cytome Assay for High Throughput Analysis
  *Micheline Kirsch-Volders*, Laboratory for Cell Genetics, Vrije Universiteit Brussel

3:00 PM  S52  Development of an Integrated Genome-Wide Assay to Detect Copy Number Mutations Generated by Exposure to Chemical Stressors
  *Freeman JL*, Peterson S. Purdue University, West Lafayette, IN, United States

3:15 PM  S53  Effect of Extreme Low Dose Radiation in Wet Condition Detected by Trad-MCN Assay
  *Ma TH*, Davies BM. Western Illinois University, Macomb, IL, United States

3:45 PM–5:45 PM  Grand Ballroom C
**SYMPOSIUM 12**

**ADVANCED TECHNOLOGIES FOR CANCER EPIDEMIOLOGY**

*Chairpersons: Miriam C. Poirier, Laboratory of Cancer Biology and Genetics, NCI, NIH and Rao L. Divi, Division of Cancer Control and Population Sciences, NCI, NIH*

3:45 PM  S54  The Epigenetic Status of Subfamilies of DNA Repeats As Differentiation-Independent Metrics for Genome Instability in Cancer Epidemiology
  *Paul Lizardi*, Yale University School of Medicine

4:10 PM  S55  Bridging the Gap from Emerging Laboratory Technologies to Bio-Repositories for Epidemiologic Studies
  *Graham Colditz*, Alvin J. Siteman Cancer Center

4:35 PM  S56  Applying Phenotypic Carcinogen Biomarkers in Epidemiology Studies
  *Stephen S. Hecht*, University of Minnesota

5:00 PM  S57  NCI Funding Opportunities for Cancer Epidemiology
  *Mukesh Verma*, National Cancer Institute

5:15 PM  S58  Elucidating the Relationship between the Effects of Various Radiation Qualities and Surrogate Cancer Endpoints Using Novel Flow-Based Assays
  *Whalen MK, Sridharan D, Pluth JM*, Lawrence Berkeley National Lab, Berkeley, CA, United States

5:30 PM  S59  Development of a High Throughput DNA Damage Quantification Assay for Characterization of Chemotherapeutic Sensitivity and DNA Repair Capacity
  *Wood DK, Wingeist DM, Bhatia SG, Engelward BP*. Massachusetts Institute of Technology, Cambridge, MA, United States
Wednesday, October 28

7:00 AM–12:00 NOON  Grand Ballroom F
REGISTRATION

7:00 AM–9:00 AM  Grand Ballroom Foyer
COMMITTEE MEETINGS

2010 PROGRAM COMMITTEE  Frisco, 3rd Fl.
(SECOND MEETING)
Chairperson: Jeffrey L. Schwartz, University of Washington

WEB SITE COMMITTEE  Texas Special, 3rd Fl.
Chairpersons: Martina L. Veigl, Case Western Reserve University and Barry N. Ford, Defense Research and Development Canada

8:30 AM–5:30 PM  Grand Ballroom D
NETWORKING ROOM OPEN

9:00 AM–11:00 AM  Grand Ballroom F
SYMPOSIUM 14

CHEMICAL AND RADIATION INDUCED PERSISTENT AND UNTARGTED GENETIC INSTABILITY
Chairperson: Robert H. Schiestl, UCLA School of Medicine and Public Health

9:00 AM  S64  Ionizing Radiation Induces Microhomology-Mediated End-Joining In Trans in Yeast and Mammalian Cells  Robert H. Schiestl, UCLA School of Medicine and Public Health

9:30 AM  S65  Mechanisms of Long Term Accumulation of Mutations: Clonal Expansion and Epigenetic Changes  Bevin P. Engelward, Massachusetts Institute of Technology

10:00 AM  S66  Germ Cells Mediate Untargeted Mutagenesis in the Maternal Genome of Progeny  Richard N. Winn, University of Georgia

10:30 AM  S67  Radiation-Induced Persistent Genomic Instability  Charles L. Limoli, University of California, Irvine

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3:45 PM–5:45 PM  Grand Ballroom F
SYMPOSIUM 13

EPIGENOME AND THE ENVIRONMENT: FROM UNDERSTANDING THE MECHANISMS TO RISK ASSESSMENTS

Chairpersons: Olga Kovalchuk, University of Lethbridge and Catherine B. Klein, New York University School of Medicine

Contributing Sponsor: National Institute of Allergy and Infectious Diseases, NIH and Office of Rare Diseases, NIH

3:45 PM  S60  Nutrition and Carcinogenesis: Epigenomic Approaches to Cancer Prevention  Igor Pogribny, National Center for Toxicological Research, U.S. FDA

4:15 PM  S61  Epigenetic Changes Underlie Organismal Adaptation to Changing Environments  Igor Kovalchuk, University of Lethbridge

4:45 PM  S62  Persistence of Epigenetic Changes Induced by Chronic Submicromolar Arsenic  Catherine B. Klein, New York University School of Medicine

5:15 PM  S63  Role of Epigenetic Deregulation in Radiation-Induced Genome Instability and Carcinogenesis  Olga Kovalchuk, University of Lethbridge

6:30 PM–7:00 PM  Grand Ballroom Foyer
CASH BAR/NETWORKING

7:00 PM–11:45 PM  Regency Ballroom
EMS BANQUET

Awards Presentation by President Priscilla K. Cooper

Alexander Hollaender Award
EMS Service Award
EMS Award
9:00 AM–11:00 AM  Grand Ballroom C  
**SYMPOSIUM 15**

**WOMEN IN ENVIRONMENTAL MUTAGEN SOCIETY SPECIAL INTEREST GROUP WOMEN’S HEALTH ISSUES: DIAGNOSIS AND TREATMENT IN THE 21ST CENTURY**

Chairpersons: **Kristine L. Witt**, National Institute of Environmental Health Sciences, NIH, **Glenda J. Gentile**, University of Arizona, **Janice M. Pluth**, Lawrence Berkeley National Laboratory, and **Ofelia A. Olivero**, National Cancer Institute, NIH

**Contributing Sponsors:** National Institute of Environmental Health Sciences, NIH and Office of Research in Women’s Health, NIH

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<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
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</table>
| 9:00 AM  | S68     | **Challenges of Epidemiologic Research in the Genomic Era: The Example of Ovarian Cancer**  
Patricia G. Moorman, Duke University |
| 9:35 AM  | S69     | **Novel Epigenetic Biomarkers for Early Detection of Breast Cancer and Prediction of Treatment Responses: From Bench to Bedside**  
Olga Kovalchuk, University of Lethbridge |
| 10:10 AM | S70     | **Obesity, Vitamin Supplementation and Biomarkers of Oxidative Stress and Cardiovascular Disease**  
Nina T. Holland, University of California, Berkeley |
| 10:45 AM | S71     | **PALB2 Physically and Functionally Connects BRCA1 and BRCA2 into a Pathway of Homologous Recombination**  
Zhang F, Fan Q, Ren K, Andreassen PR, Cincinnati Children’s Research Foundation, Cincinnati, OH, United States |

11:00 AM–12:00 NOON  Grand Ballroom F  
**PLENARY LECTURE 5**

**MENDING HUMAN GENES**

**EMS AWARD RECIPIENT**

Lecturer: **James E. Cleaver**, University of California, San Francisco

12:10 PM–1:15 PM  Grand Ballroom C  
**TOWN HALL MEETING**

Opportunity for EMS members to provide input into the future direction of the Society

1:15 PM–3:15 PM  Grand Ballroom F  
**PLATFORM SESSION 3**

**RISK/REGULATION**

Chairperson: **Richard D. Wood**, The University of Texas MD Anderson Cancer Center

Platform presenter designated by underlined author.

<table>
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<th>Time</th>
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| 1:15 PM  | 11      | **Accelerated Tumorigenesis in the Absence of DNA Polymerase Zeta**  
Wittschieben JP, Patil V, Glushets V, Robinson LF, Wood RD, University of Pittsburgh Medical School, Pittsburgh, PA, United States, 2University of Texas M. D. Anderson Cancer Center, Smithville, TX, United States |
| 1:30 PM  | 12      | **CYPD6*16 Testing to Accurately Detect Poor Metabolizers**  
Phillips SL, Clark LS, Gentris Clinical Genetics, Inc, Morrisville, NC, United States |
| 1:45 PM  | 13      | **Polyploidy-Induction by Dihydroxylated Monochloro-Biphenyls and Structure-Activity-Relationship**  
Flor S, Ludewig G, University of Iowa, Iowa City, IA, United States |
| 2:00 PM  | 14      | **Spectrum of Chromosomal Aneuploidy, Benzene Exposure and Leukemia Risk**  
Zhang L, Lan Q, Guo W, Hubbard A, Li G, Rappaport SM, Ji Z, Shen M, Vermeulen R, Yin S, Rothman N, Smith MT, School of Public Health, University of California at Berkeley, Berkeley, CA, United States, 2Division of Cancer Epidemiology and Genetics, NCI, NIH, DHHS, Bethesda, MD, United States, 3Chinese Center for Disease Control and Prevention, Beijing, China |
| 2:15 PM  | 15      | **Genotoxicity Evaluation of Hepatocarcinogens in Rat Liver Tissue by Systems Toxicology Approach**  
Chung Y-S, Yim YN, Kim JE, Koo KH, Lee WS, Park SN, Medvill Research Institute, Seoul, Republic of Korea, 2National Institute of Food and Drug Safety Evaluation, Korea Food and Drug Administration, Seoul, Republic of Korea |
| 2:30 PM  | 16      | **Germline Mutation in Mice Exposed to Mainstream and Sidestream Tobacco Smoke**  
Marchetti F, Rowan-Carroll A, Berndt-Weis MJ, Polyzos A, Yauk C, Lawrence Berkeley National Laboratory, Berkeley, CA, United States, 2Health Canada, Ottawa, ON, Canada |
2:45 PM 17 Molecular and Genetic Factors Influence on DNA Repair Efficiency and Health Hazard Cebulska-Wasilewska A1,2. 1Environmental and Radiation Biology Department, The H. Niewodniczański Institute of Nuclear Physics PAN, Krakow, Poland, 2Epidemiology and Preventive Medicine Department CM UJ, Krakow, Poland

2:15 PM 23 GADD45a-GFP Test Results from ECVAM Recommended Lists of Compounds for the Assessment of New or Improved Genotoxicity Tests Walmsley RM1,2, Tate M1, Cahill P1, Birrell L1, Hughes C1, Jagger C1, Knight A1, Billinton N1. 1University of Manchester, Manchester, United Kingdom, 2Gentronix Ltd, Manchester, United Kingdom

3:00 PM 18 Human Risk by the Environmental Exposure to Benzo[a]pyrene Sram RJ, Binkova B, Beskid O, Milcova A, Rossner P, Rossnerova A, Solansky I, Topinka J. Institute of Experimental Medicine AS CR, Prague, Czech Republic

2:30 PM 24 Detecting PIG-A Gene Mutation in Human Red Blood Cells Dobrovolsky VN1, Bigger CAH2, Elespuru RK1, Robison TW1, Heflich RH1. 1NCTR/FDA, Jefferson, AR, United States, 2FDA Center for Veterinary Medicine, Rockville, MD, United States

1:15 PM–3:15 PM Grand Ballroom C

PLATFORM SESSION 4

GENETIC TOXICOLOGY/ENVIRONMENTAL MUTAGENESIS

Chairpersons: Robert H. Heflich, National Center for Toxicological Research, U.S. FDA and Helena Groot de Restrepo, Universidad de los Andes
Platform presenter designated by underlined author.

1:15 PM 19 Comparative DNA Damage and Repair Kinetics Study in Mammalian Cells by Chloro-, Bromo-, and Iodoacetic Acid Komaki Y, Pals J, Wagner E, Marinas B, Plewa MJ. University of Illinois, Urbana, IL, United States

2:00 PM 22 European Hot Spot of Air Pollution by PM2.5 and B[a]P: Ostrava, Czech Republic Sram RJ, Milcova A, Pastorkova A, Rossner Jr P, Rossnerova A, Solansky I, Svecova V, Topinka J. Institute of Experimental Medicine AS CR, Prague, Czech Republic

1:30 PM 20 The Somatic Microindels in Human Cancer Are Highly Error-Prone and Suggest the Involvement of an As Yet Uncharacterized Repair Pathway Sommer S, Gonzalez K, Scarringe W. MEDomics, LLC, Azusa, CA, United States

2:45 PM 25 Occupational Exposure to Organic Solvents: Biomarkers of Exposure, Effect and Susceptibility Varona M1, Torres CH, Díaz S1, Patiño RF, Albores A1, Narvaez DM1, Groot H1. 1Instituto Nacional de Salud, Bogota, Colombia, 2Universidad El Bosque, Bogota, Colombia, 3Instituto Politecnico Nacional, Mexico, DC, Mexico, 4Universidad de los Andes, Bogota, Colombia

1:45 PM 21 Elucidating the Functional Consequences of the Trichloroethylene Associated Von-Hippel Lindau Tumor Suppressor Gene Mutation Using a Genetically Engineered Model System DeSimone MC1, Rathmell WK1, Threadgill DW2,3. 1University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, 2North Carolina State University, Raleigh, NC, United States

2:00 PM 26 Future Application of Genetic Toxicity Assays Elespuru RK1, Agarwal R1, Atrakchi A1, Bigger CAH1, Heflich RH1, Jagannath DR1, Levy DD1, Moore MM1, Ouyang Y1, Robison TW1, Cimino MC1, Bearfield KL1. 1FDA Center for Devices and Radiological Health, Silver Spring, MD, United States, 2FDA Center for Drugs and Silver Spring, MD, United States, 3FDA National Center for Toxicological Research, Jefferson, AR, United States, 4FDA Center for Veterinary Medicine, Rockville, MD, United States, 5FDA Center for Food Safety and Applied Nutrition, College Park, MD, United States, 6US EPA, Washington, DC, United States, 7US DA, Washington, DC, United States

2:00 PM 21 Elucidating the Functional Consequences of the Trichloroethylene Associated Von-Hippel Lindau Tumor Suppressor Gene Mutation Using a Genetically Engineered Model System DeSimone MC1, Rathmell WK1, Threadgill DW2,3. 1University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, 2North Carolina State University, Raleigh, NC, United States

2:00 PM 26 Future Application of Genetic Toxicity Assays Elespuru RK1, Agarwal R1, Atrakchi A1, Bigger CAH1, Heflich RH1, Jagannath DR1, Levy DD1, Moore MM1, Ouyang Y1, Robison TW1, Cimino MC1, Bearfield KL1. 1FDA Center for Devices and Radiological Health, Silver Spring, MD, United States, 2FDA Center for Drugs and Silver Spring, MD, United States, 3FDA National Center for Toxicological Research, Jefferson, AR, United States, 4FDA Center for Veterinary Medicine, Rockville, MD, United States, 5FDA Center for Food Safety and Applied Nutrition, College Park, MD, United States, 6US EPA, Washington, DC, United States, 7US DA, Washington, DC, United States
### SYMPOSIUM 16
**NANOTECHNOLOGY: AN INSIGHT ON THE TOXICOLOGY OF NANOPARTICLES**

**Chairpersons:** Patricia A. Escobar, Boehringer Ingelheim Pharmaceuticals, Inc. and David M. DeMarini, U.S. Environmental Protection Agency

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<tr>
<td>3:30 PM</td>
<td>S72</td>
<td>Overview on the Genotoxicity of Nanoparticles&lt;br&gt;Micheline Kirsch-Volders, Vrije Universiteit Brussels</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>S73</td>
<td>Issues Surrounding the Testing of Nanoparticles for Genotoxicity&lt;br&gt;Fanqing Frank Chen, Lawrence Berkeley National Laboratory</td>
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<tr>
<td>4:45 PM</td>
<td>S74</td>
<td>Regulatory Issues Surrounding Nanoparticles&lt;br&gt;Penelope Rice, Center for Food Safety and Applied Nutrition, U.S. FDA</td>
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<td>5:15 PM</td>
<td>S75</td>
<td>Aneugenic and Clastogenic Effects of Amorphous Silica Nanoparticles in A549 Human Lung Carcinoma Cells: Size Matters?&lt;br&gt;Gonzalez L¹, Thomassen L², Plas G¹, Rabolli V¹, Napierska D¹, Decorder F¹, Hoet P¹, Martens J², Lison D², Kirsch-Volders M¹, Vrije Universiteit Brussel, Brussels, Belgium, ²Katholieke Universiteit Leuven, Leuven, Belgium, ¹Université Catholique de Louvain, Brussels, Belgium</td>
</tr>
</tbody>
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### SYMPOSIUM 17
**USE OF DNA ADDUCT DATA IN RISK ASSESSMENT: CONTEXT IS EVERYTHING!**

**Chairpersons:** Lynn H. Pottenger, The Dow Chemical Company and Rita Schoeny, U.S. Environmental Protection Agency

**Contributing Sponsors:** American Chemical Council Ethylene Oxide Panel Toxicology Research Task Group, American Chemical Council Olefins Panel Ethylene/Propylene Work Group (Olefins Panel E/PWG), and ILSI-HESI DNA Adducts Project Committee

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<tr>
<td>3:30 PM</td>
<td>S76</td>
<td>Overview/Objectives of ILSI-HESI DNA Adducts Project Committee&lt;br&gt;Lynn H. Pottenger, The Dow Chemical Company</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>S77</td>
<td>Creating Context for the Use of DNA Adduct Data in Risk Assessment&lt;br&gt;Annie Jarabek, National Center for Environmental Assessment, ORD, U.S. EPA</td>
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</table>
41st Annual Meeting

Fort Worth, Texas
October 23–27, 2010
Omni Fort Worth

See you next year

EMS President:
Michael J. Plewa

Program Chair:
Jeffrey L. Schwartz
EXHIBITS

Exhibits and Posters are located in Regency Ballroom and will be open the following times:

- **Sunday, October 25, 2009**: 4:30 PM–6:30 PM
- **Monday, October 26, 2009**: 8:30 AM–7:30 PM
- **Tuesday, October 27, 2009**: 8:30 AM–11:30 AM

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Sandy Weiner

Other Key Individuals:
Noah I. Schwartz