

# **ENVIRONMENTAL MUTAGEN SOCIETY**

## **Thirty-Seventh Annual Meeting**

### **Genetic and Environmentally Induced Genotoxicity: Causes and Impact**

Hyatt Regency Vancouver  
Vancouver, British Columbia, Canada  
September 16-20, 2006

Abstracts printed in *Environmental and Molecular Mutagenesis*  
Volume 47, Number 6

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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Web Site: [www.ems-us.org](http://www.ems-us.org)

## **Councilors 2006 - 2008**

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Rosalie K. Elespuru	Jeffrey L. Schwartz
James S. Felton	W. David Sedwick
Lynnette R. Ferguson	Barbara S. Shane
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## **Sponsors of the 37th Annual Meeting**

### **Platinum**

Agilent Technologies  
Department of Homeland Security  
Elsevier  
Integrated Laboratory Systems, Inc. (ILS)  
National Aeronautics and Space Administration (NASA)  
National Institutes of Environmental Health Sciences  
Office of Rare Diseases, National Institutes of Health  
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U.S. Department of Energy  
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BioReliance, Invitrogen bioservices  
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### **Bronze**

Boehringer Ingelheim Pharmaceuticals, Inc.  
CIPHERGEN Biosystems, Inc.  
Society of Toxicology

## SPONSORED EVENTS

### Saturday, September 16

#### **Workshop on Scientific Teaching**

*Primary Sponsor: Research Corporation*

#### **Progress in –omics Technologies Workshop**

*Contributing Sponsor: CIPHERGEN Biosystems, Inc.*

### Sunday, September 17

#### **Use and Application of Mode of Action in Cancer Risk Assessment Symposium**

*Primary Sponsor: U.S. Environmental Protection Agency*

#### **Rare Diseases Resulting from DNA Repair Defects Symposium**

*Primary Sponsor: Office of Rare Diseases, National Institutes of Health*

#### **Agilent Technologies Workshop**

*Primary Sponsor: Agilent Technologies*

#### **Risk of Low Dose/Low Dose Rate Ionizing Radiation to Humans Symposium**

*Primary Sponsor: U.S. Department of Energy*

#### **Mutagenesis and DNA Repair in Stem Cells Symposium**

*Primary Sponsor: National Aeronautics and Space Administration (NASA)*

#### **Afternoon Beverage Break**

*Primary Sponsor: Cantox Health Sciences International*

#### **Poster Session I**

*Primary Sponsor: Integrated Laboratory Systems, Inc. (ILS)*

### Monday, September 18

#### **Personalized Drug Treatment Intervention in the Post-Genomic Era Symposium**

*Contributing Sponsor: Pfizer Inc.*

#### **Mitigating the Impact of Bioterrorism and Natural Disasters on Public Health Symposium**

*Primary Sponsor: Department of Homeland Security*

#### **Poster Session II**

*Primary Sponsor: Integrated Laboratory Systems, Inc. (ILS)*

### Tuesday, September 19

#### **Keynote Lecuture: Leroy Hood**

*Contributing Sponsor: Merck Research Laboratories*

### Wednesday, September 20

#### **Genomics and New Technologies Special Interest Groups Breakfast Meeting**

*Primary Sponsor: Applied Biosystems*

#### **The Role of Dietary Supplements and Food in Human Health Platform Session**

*Contributing Sponsor: Office of Dietary Supplements, National Institutes of Health*

## Thank You

EMS sincerely appreciates the effort and hard work of the following people who have helped make this a successful and worthwhile meeting.

### Program Committee Members

<i>Chair: Martina L. Veigl</i>	Peggy J. Guzzie	W. David Sedwick
Gerald M. Adair	Kathleen A. Hill	Barbara S. Shane
Andrew B. Buermeyer	Warren W. Ku	Ronald D. Snyder
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James S. Felton	Mats Ljungman	James D. Tucker
Lynnette R. Ferguson	Lawrence A. Loeb	Carole L. Yauk
James C. Fuscoe	William F. Morgan	Errol Zeiger
Sheila M. Galloway	Jeffrey L. Schwartz	

### Platform, Symposia, and Workshop Chairpersons

Gerry Adair	Stanton Gerson	W. David Sedwick
William M. Baird	Peggy J. Guzzie	Barbara S. Shane
P.J. Brooks	Li Jin	Michael J. Smerdon
Andrew B. Buermeyer	Randy Jirtle	Joann B. Sweasy
Larry D. Claxton	Kenneth Kraemer	John A. Tainer
Kerry L. Dearfield	Warren W. Ku	Larry Thompson
David Eastmond	Thomas A. Kunkel	Veronique T. Thybaud
Don G. Ennis	Lili Liu	James D. Tucker
Lynnette Ferguson	William F. Morgan	Thomas E. Wilson
James C. Fuscoe	Nagalakshmi Keshava	Carole L. Yauk
James Gentile	Raymond Reeves	Errol Zeiger
S. Elizabeth George	Jeffrey L. Schwartz	

### Other Key Individuals

Jack B. Bishop	Nagalakshmi Keshava	Jeffrey L. Schwartz
Stefano Bonassi	Olga Kovalchuk	W. David Sedwick
David M. DeMarini	Lawrence A. Loeb	Ronald D. Snyder
George R. Douglas	Peggy L. Olive	Peter J. Stambrook
Barry N. Ford	Ofelia A. Olivero	Suzanne Wright
Philip C. Hanawalt		

### Photography

Jim Lee

**SATURDAY, SEPTEMBER 16, 2006**

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7:00 AM - 9:30 AM

**EMS Executive Board Meeting**

*Brighton*

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7:30 AM - 6:00 PM

**Registration**

*Regency Foyer*

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## SATURDAY, SEPTEMBER 16, 2006

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8:00 AM - 4:00 PM

### **Progress in –omics Technologies Workshop**

(Separate Registration Required)

*Regency F*

Chairpersons: Carole L. Yauk, Health Canada and  
Veronique T. Thybaud, Sanofi Aventis

*Contributing Sponsor: CIPHERGEN Biosystems, Inc.*

- 8:00 AM      **Application of Toxicogenomics to Mechanistic Risk Assessment**  
*Speaker: Jiri Aubrecht, Pfizer Inc.*
- 8:40 AM      **Advances in SNP Analysis**  
*Speaker: Ronald Snyder, Schering-Plough Research Institute*
- 9:20 AM      **Epigenomic Tools**  
*Speaker: David Sedwick, Case Western Reserve University*
- 10:00 AM     BREAK
- 10:20 AM     **Gene Transcript Analysis Across Technologies**  
*Speaker: Carole Yauk, Environmental and Occupational Toxicology Division, Health Canada*
- 11:00 AM     **Public Databases and Tools**  
*Speaker: Michael D. Waters, NIEHS, National Center for Toxicogenomics*



## SATURDAY, SEPTEMBER 16, 2006

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- 11:40 AM      **New Tools in Bioinformatics**  
*Speaker: Paul Pavlidis, University of British Columbia*
- 12:20 PM      LUNCH on own
- 1:30 PM        **Gene-Transcript Profiling in Low Dose Radiation**  
*Speaker: Andrew J. Wyrobek, Lawrence Berkeley National Laboratory*
- 2:10 PM        **Nanotoxicity, A New Challenge for the Environment and Health**  
*Speaker: Frank Chen, Lawrence Berkeley National Laboratory*
- 2:50 PM        **Association of Arsenic Exposure With Defensin Levels in the Urinary Proteome**  
*Speaker: Christine Hegedus, University of California, Berkeley*
- 3:30 PM        **Roundtable Discussion: Integration Across Technologies**
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**SATURDAY, SEPTEMBER 16, 2006**

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8:30 AM - 12:00 PM

**Workshop on Scientific Teaching**

(Separate Registration Required)

*Plaza A*

Chairperson: James Gentile, Research Corporation

*Primary Sponsor: Research Corporation*

The mission of this workshop is to instill a stronger sense of purpose in all of us involved in science education. The workshop covers a vital core interest area of the EMS. Science education is the key to ensuring a flow of outstanding young individuals into our teaching and research programs of the future. This Workshop brings together a group of speakers who will generate interest and lively discussion around the general topic of “scientific teaching that mirrors science at its best - experimental, rigorous and based on evidence”. The speakers at the workshop are:

*Kate Dixon, Head of Cell and Molecular Biology at the University of Arizona*

*Gail Burd, Distinguished Professor of Cell and Molecular Biology and Assistant Dean for the College of Science at the University of Arizona*

*Carl Wieman, Nobel Laureate, Distinguished Professor of Physics at the University of British Columbia*

*Jim Gentile, President of the Research Corporation in Tucson Arizona which is dedicated to promoting the scientific mission*

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1:00 - 4:00 PM

**EMS Council Meeting**

*Balmoral*

## SATURDAY, SEPTEMBER 16, 2006

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1:30 PM - 4:00 PM

### **Scientific Publication and Peer Review Workshop**

(Separate Registration Required)

*Plaza A*

Chairpersons: Larry D. Claxton, U.S. Environmental Protection Agency and Errol Zeiger, Errol Zeiger Consulting

- 1:30 PM      **Introduction to Scientific Publication**  
*Speaker: Michael D. Waters, NIEHS, National Center for Toxicogenomics*
- 2:00 PM      **Ethical Issues Associated with Preparing, Submitting, and Reviewing a Manuscript**  
*Speaker: Larry Claxton, U.S. Environmental Protection Agency*
- 2:30 PM      **The Author's Role and Responsibilities**  
*Speaker: Errol Zeiger, Errol Zeiger Consulting*
- 3:00 PM      **The Scientific Publication Process: The Editor's Role and Responsibilities**  
*Speaker: Robert H. Heflich, Environmental and Molecular Mutagenesis*
- 3:30 PM      **Discussion**

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4:30 PM - 7:00 PM

### **Student Poster Session and Welcoming Reception**

*Regency D*

AD

## **SUNDAY, SEPTEMBER 17, 2006**

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7:00 AM - 6:00 PM

**Registration**  
*Regency Foyer*

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7:00 AM - 8:30 AM

### **BREAKFAST MEETINGS**

**2007 Program Committee (first meeting)**  
*Plaza A*

**Membership and Professional Development Committee**  
*Plaza B*

**Molecular Epidemiology Special Interest Group**  
*Georgia A*

Chairperson: Radim Sram, Institute of Experimental Medicine

Three new topics were selected for this year's breakfast meeting. Jim Tucker, Wayne State University, will discuss outlines for FISH chromosome painting in human population studies, David DeMarini, US EPA, will discuss new approach to determine DNA adducts, and Daniel Shaughnessy, NIEHS, will discuss the impact of antioxidants in diet to fried-meat DNA damage. Each presentation will be followed by an informal group discussion. Finally, other topics of interest for this SIG and next year meeting will be discussed.

**Transgenic and *In Vivo* Mutagenesis Special Interest Group**  
*Georgia B*

Chairpersons: Carrie Valentine, NCTR, FDA and Kathleen Hill, University of Western Ontario

This year's breakfast meeting will highlight the recent research of our student and new investigator members. Topics include different mutation assay systems, mutagen exposures at different life stages and a broad range of organisms. These short presentations will be delivered by: Jicheng Wang from City of Hope, Rory Crabbe from University of Western Ontario, Li Liang from Rutgers University, Susan Ritger from University of Georgia and Richard Winn from University of Georgia. The schedule will permit ample time for discussion. We look forward to meeting with you!

## SUNDAY, SEPTEMBER 17, 2006

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8:30 AM - 11:20 AM

### **Use and Application of Mode of Action in Cancer Risk Assessment Symposium**

*Regency EF*

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

*Primary Sponsor: U.S. Environmental Protection Agency*

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|----------|-----------|--|
| 8:30 AM  | <b>S1</b> | <b>Introduction to the Use of Mode of Action and Its Application to Risk Assessment</b><br><i>Speaker: Ila Cote, U.S. Environmental Protection Agency</i>                          |
| 9:00 AM  | <b>S2</b> | <b>Mode of Action and Dose Response Analysis: Approaches and Contemporary Issues</b><br><i>Speaker: David A. Eastmond, University of California—Riverside</i>                      |
| 9:20 AM  | <b>S3</b> | <b>Issues Regarding Mode of Action Analysis for Arsenicals and Implications for Dose-Response Analysis</b><br><i>Speaker: Reeder Sams, U.S. Environmental Protection Agency</i>    |
| 9:40 AM  | <b>S4</b> | <b>Mode of Action Issues in Benzene Cancer Risk Assessment and Their Relevance to Low Dose Extrapolation</b><br><i>Speaker: Martyn T. Smith, University of California—Berkeley</i> |
| 10:00 AM |           | BREAK  |

**SUNDAY, SEPTEMBER 17, 2006**

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- 10:20 AM    **S5**    **Application of a Framework for Mode of Action and Human Relevance Analysis of Observed Tumors in Animals**  
*Speaker: Bette Meek, Health Canada*
- 10:40 AM    **S6**    **The Use of Mechanistic Data in IARC Evaluations**  
*Speaker: Vincent J. Cogliano, International Agency for Research on Cancer*
- 11:00 AM    **Panel Discussion:**  
**Mode of Action and Low Dose Extrapolation: Research Needs to Improve Risk Assessment**  
*Moderator: Ila Cote, U.S. Environmental Protection Agency*
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## SUNDAY, SEPTEMBER 17, 2006

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8:30 AM - 11:20 AM

### **Rare Diseases Resulting from DNA Repair Defects Symposium** *Regency D*

Chairpersons: P.J. Brooks, National Institute on Alcohol Abuse and Alcoholism and Kenneth Kraemer, National Cancer Institute

*Primary Sponsor: Office of Rare Diseases,  
National Institutes of Health*

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|----------|------------|---|
| 8:30 AM  | <b>S7</b>  | <b>Introduction/Overview and Molecular Mechanisms of Neurological Disease in Hereditary DNA Repair Disorders</b><br><i>Speaker: P.J. Brooks, National Institute on Alcohol Abuse and Alcoholism</i> |
| 9:00 AM  | <b>S8</b>  | <b>Xeroderma Pigmentosum, Cockayne's Syndrome, and Trichothiodystrophy</b><br><i>Speaker: Kenneth Kraemer, National Cancer Institute</i>  |
| 9:30 AM  | <b>S9</b>  | <b>Catalytic Properties of Tyrosyl DNA Phosphodiesterase, the Protein Mutated in Spinocerebellar Ataxia with Axonal Neuropathy</b><br><i>Speaker: Heidrun Interthal, University of Washington</i>   |
| 10:00 AM |            | BREAK   |
| 10:20 AM | <b>S10</b> | <b>The BRCA1 Associated Helicase BACH1 is Critical for Homologous Recombination and Appears to be a Fanconi Anemia Gene Product</b><br><i>Speaker: Sharon Cantor, University of Massachusetts</i>   |
| 10:50 AM | <b>S11</b> | <b>Roles of Mediator Proteins in ATM Kinase Activation</b><br><i>Speaker: Tanya Paull, University of Texas</i>  |



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**SUNDAY, SEPTEMBER 17, 2006**

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11:20 AM - 1:00 PM

**Networking/Interaction Time**  
(Lunch on Own)

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11:25 AM - 1:00 PM

**Agilent Technologies Workshop with Lunch**  
(Advance Registration Ticket Required, Seating Limited.  
A box lunch will be provided  
as registrants check in for the workshop.)  
*Regency EF*

**Genome Tiling Microarrays  
for Studying DNA-Protein Interactions and Epigenetics**

*Primary Sponsor: Agilent Technologies*

11:25 AM      Attendee Check-in

11:40 AM      **ChIP-on-chip**  
*Chris Hopkins and Rini Mukherjee Saxena,  
Agilent Technologies*

12:15 PM      **Gene Expression/Tox Application**  
*Erik Bjeldanes, Agilent Technologies*

12:50 PM      **Discussion**

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**SUNDAY, SEPTEMBER 17, 2006**

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1:00 PM - 2:00 PM

**Plenary Lecture**

*Regency D*

Irving L. Weissman  
Stanford Institute for Stem Cell Biology  
and Regenerative Medicine

**Normal Stem Cells and Cancer/Leukemia Stem Cells**

## SUNDAY, SEPTEMBER 17, 2006

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2:00 PM - 4:50 PM

### **Risk of Low Dose/Low Dose Rate Ionizing Radiation to Humans Symposium** *Regency EF*

Chairpersons: William F. Morgan, University of Maryland and  
Jeffrey L. Schwartz, University of Washington

*Primary Sponsor: U.S. Department of Energy*

- 2:00 PM      **S12    An Introduction to Low Dose Radiation Effects**  
*Speaker: William F. Morgan, University of Maryland*
- 2:20 PM      **S13    The Spontaneous Mutation Rate is the Apparent Threshold for Ionizing Radiation**  
*Speaker: Robert C. von Borstel, University of Alberta*
- 2:30 PM      **S14    Cancer Risks at Very Low Dose: Why Did the U.S. and French National Academics Come to Directly Opposite Conclusions?**  
*Speaker: David J. Brenner, Columbia University*
- 3:00 PM      **BREAK**  
*Sponsored by Cantox Health Sciences International*
- 3:20 PM      **S15    Radiation-Induced Neoplastic Transformation In Vitro, Hormesis and Risk Assessment**  
*Speaker: J. Leslie Redpath, University of California—Irvine*
- 3:50 PM      **S16    Toxin or Medicine? Radon Therapy in the U.S. and Europe**  
*Speaker: Barbra E. Erickson, California State University*
- 4:20 PM      **S17    Response to Low Dose Radiation: Impact on the Dose-Response Curve**  
*Speaker: Antone L. Brooks, Washington State University*

## SUNDAY, SEPTEMBER 17, 2006

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2:00 PM - 4:50 PM

### **Mutagenesis and DNA Repair in Stem Cells Symposium** *Regency D*

Chairpersons: Stanton Gerson, Case Western Reserve University  
and Lili Liu, Case Western Reserve University

*Primary Sponsor: National Aeronautics and Space Administration  
(NASA)*

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|---------|------------|---|
| 2:00 PM | <b>S18</b> | <b>DNA Damage and Repair in Hematopoietic Stem Cells: Aging, Failure, and Malignancy</b><br><i>Speaker: Stanton Gerson, Case Western Reserve University</i>   |
| 2:30 PM | <b>S19</b> | <b>DNA Damage Responses in the Aged Hematopoietic Stem Cell System</b><br><i>Speaker: Hartmut Geiger, Cincinnati Children's Hospital Medical Center</i>   |
| 3:00 PM |            | BREAK<br><i>Sponsored by Cantox Health Sciences International</i>   |
| 3:20 PM | <b>S20</b> | <b>Accumulation, Processing, and Cytotoxic Potential of DNA Damage in Hematopoietic Stem and Progenitor Cells</b><br><i>Speaker: Jurgen Thomale, University of Essen Medical School</i>                       |
| 3:50 PM | <b>S21</b> | <b>Nuclear Morphotypes in Human Embryogenesis and Carcinogenesis: Bell-Shaped Nuclei Show Stem-Like Properties <i>In Vivo</i></b><br><i>Speaker: Elena V. Gostjeva, Massachusetts Institute of Technology</i> |
| 4:20 PM | <b>S22</b> | <b>When, Where, and How do Cancer Initiating Mutations Occur in Humans? (The Juvenile Stem Cell Mutator Hypothesis)</b><br><i>Speaker: William G. Thilly, Massachusetts Institute of Technology</i>           |

## SUNDAY, SEPTEMBER 17, 2006

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5:00 PM - 6:30 PM

### **Environmental and Physiological Impact of the Epigenome Platform Session** *Regency D*

Chairperson: Randy Jirtle, Duke University Medical Center

- 5:00 PM 1    **ENVIRONMENTAL INFLUENCES ON THE  
FETAL EPIGENOME**  
Dolinoy DC, Weidman JR, Waterland RA, Jirtle RL
- 5:15 PM 2    **EARLY DEVELOPMENTAL EXPOSURES TO  
ESTROGENS/BISPHENOL A IMPACT A  
SPECIFIC PROSTATE EPIGENOME**  
Tang WY, Prins GS, Ho SM
- 5:30 PM 3    **EFFECT OF TUMOR MICROENVIRONMENT  
ON DNA METHYLATION IN CANCER**  
Shahzad S, Minhas K, Coomber B
- 5:45 PM 4    **DNA HYPOMETHYLATION AND  
HOMOCYSTEINE-MEDIATED ABERRANT  
T-CELL GENE EXPRESSION: IMPLICATIONS  
FOR ACCELERATED ATHEROSCLEROSIS IN  
UREMIA**  
Heung M, Richardson B
- 6:00 PM 5    **IDENTIFICATION OF THREE BORIS  
PROMOTERS REGULATED BY METHYLATION,  
p53, AND CTCF**  
Loukinov D, Renaud S, Pugacheva E, Benhattar J,  
Lobanenkov V
- 6:15 PM 6    **EVIDENCE FOR mRNA SPLICING INSTABILITY  
OF DNA REPAIR GENES IN CANCER CELL  
LINES**  
Skandalis A, Tiedke E

**SUNDAY, SEPTEMBER 17, 2006**

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4:50 PM - 7:30 PM

**Exhibits  
and  
Poster Session I**  
*Regency ABC*

*Primary Sponsor: Integrated Laboratory Systems, Inc. (ILS)*

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Odd numbered posters to be attended from 4:50 PM – 6:15 PM

Even numbered posters to be attended from 6:15 PM – 7:30 PM

Presenting author underlined

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Poster #

- P1 **MODULATION BY CHLOROPHYLLIN OF  
BENZO(A)PYRENE (BP)-DEPENDENT CYP1 INDUCTION  
AND DNA ADDUCT FORMATION IN NORMAL HUMAN  
MAMMARY CELLS (NHMECs) AND MCF-7 CELLS**  
John K, Divi RL, Keshava C, Whipkey DL, Poirier MC,  
Orozco C, Shockley M, Weston A, Nath J
- P2 **DOSE-RESPONSE AND APPARENT THRESHOLDS FOR  
DNA ADDUCTS AND *IN VITRO* MUTAGENICITY IN  
MOUSE LYMPHOMA CELLS TREATED WITH MMS AND  
MNU**  
Pottenger LH, Zhang F, Schisler MR, Bartels MJ, Gollapudi BB
- P3 **MUTAGENICITY AND DNA ADDUCT PROFILES OF TWO  
SULFUR ANALOGS OF BENZO[C]PHENANTHRENE AND  
THEIR DIHYDRODIOL DERIVATIVES IN *SALMONELLA***  
Swartz CD, King L, Nesnow S, Sikka HC, Kumar S
- P4 **ROLE OF 4-AMINOBIHENYL, BENZIDINE AND  
BENZIDINE ANALOGUES IN OXIDATIVE  
GENOTOXICITY**  
Makena P, Chung KT
- P5 **HALOGENATED PYRIDINE STRUCTURE ACTIVITY  
RELATIONSHIPS IN THE BACTERIAL MUTAGENICITY  
ASSAY**  
Cyr MO, Dobo KL, Greene N, Ku WW
- P6 **NON-B DNA STRUCTURE-INDUCED MUTAGENESIS IN  
MAMMALIAN CELLS**  
Wang G, Vasquez KM

## SUNDAY, SEPTEMBER 17, 2006

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Poster #

- P7 **PROCESSING OF NON-CANONICAL DNA STRUCTURES BY RNA POLYMERASE**  
VanOverbeke JL, DeSilva E, Wang G, Vasquez KM, Tornaletti S, Hanawalt PC
- P8 **INVOLVEMENT OF  $\gamma$ -FAMILY DNA POLYMERASES IN OXIDIZED dNTPs-INDUCED MUTAGENESIS IN *ESCHERICHIA COLI***  
Yamada M, Nunoshiba T, Shimizu M, Gruz P, Kamiya H, Harashima H, Nohmi T
- P9 **SCREENING AND CHARACTERIZATION OF VARIANT THETA CLASS GLUTATHIONE TRANSFERASES CATALYZING THE ACTIVATION OF ETHYLENE DIBROMIDE TO A MUTAGEN**  
Joseph PD, Taylor PL, Vervaeet G, Mannervik B
- P10 **XPD GENOTYPE AFFECTS TOBACCO SMOKE-ASSOCIATED *HPRT* MUTAGENICITY**  
Wickliffe JK, Wolfe KJ, Ammenheuser MM, Guerin AT, Hill CE, Abdel-Rahman SZ
- P11 **MECHANISTIC THRESHOLD INVESTIGATIONS OF THE QUALITATIVE AND QUANTITATIVE EFFECTS OF GENOTOXINS**  
Johnson GE, Quick EL, Parry EM, Parry JM
- P12 **AMIFOSTINE REDUCES CHROMOSOMAL INVERSIONS IN *pKZ1* SPLEEN POST X-IRRADIATION**  
Hooker AM, Day TK, Grdina DJ, Bhat M, Sykes PJ
- P13 **MUTAGENIC ACTIVATION OF OCHRATOXIN A THROUGH REACTION WITH SODIUM NITRITE**  
Schrader TJ, Langlois I
- P14 **DIESEL EXHAUST MODIFIES GENE EXPRESSION AND THE GENOTOXIC RESPONSE BY BENZO[A]PYRENE AND DIBENZO[A,L]PYRENE**  
Courter LA, Musafia T, Fischer K, Bildfell R, Pereira C, Baird W
- P15 **IDENTIFICATION OF HMGB1 AS A NEW BASE EXCISION REPAIR CO-FACTOR**  
Prasad R, Liu Y, Kedar P, Deterding L, Poltorastsky V, Khodyreva SN, Lavrik OI, Wilson SH

## SUNDAY, SEPTEMBER 17, 2006

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Poster #

- P16 **QUANTITATIVE DETERMINATION OF URACIL RESIDUES IN *ESCHERICHIA COLI* DNA: CONTRIBUTION OF *ung*, *dug*, AND *dut* GENES TO URACIL AVOIDANCE**  
Lari SU, Chen C-Y, Vertéssey BG, Morré J, Bennett SE
- P17 **CHARACTERIZATION AND PARTIAL PURIFICATION OF G•T DNA MISMATCH INCISION ACTIVITY IN HUMAN CELL EXTRACTS**  
Lari SU, Bennett SE
- P18 **EFFECTS OF GLUCOCORTICOID RECEPTOR BINDING ON BASE EXCISION REPAIR OF dU IN THE GLUCOCORTICOID RESPONSE ELEMENT**  
Wang Y, Smerdon M
- P19 **Moved to Poster Session III as Poster # P154A**
- P20 **CHANGES IN DNA REPAIR GENE EXPRESSION DUE TO LEAD EXPOSURE: IMPLICATIONS OF OXIDATIVE STRESS**  
Hernandez-Franco P, Silva M, Valverde M, Rojas E
- P21 **HISTONE 2 A.X PHOSPHORYLATION ASSAY: A HIGH THROUGHPUT SYSTEM TO IDENTIFY DNA DAMAGING COMPOUNDS**  
Janat F, Xu J, Nettleton D
- P22 **PROFILING PHOSPHORYLATION PATTERNS AFTER LOW AND HIGH LET RADIATION EXPOSURE**  
Zahed-Kargaran H, Yannone SM, Pluth JM
- P23 **Withdrawn**
- P24 **STRUCTURAL DAMAGE IN MITOCHONDRIAL DNA IS A SENSITIVE RESPONSE TO OXIDATIVE STRESS IN PROSTATE CANCER CELLS**  
Chen J, Aprikian A, Kadlubar FF, Chen JZ
- P25 **DNA STRAND BREAKS IN HUMAN HAIR FOLLICULAR CELLS**  
Singh NP, Lai HC



## SUNDAY, SEPTEMBER 17, 2006

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Poster #

- P26 **INCORPORATION OF 7,8-DIHYDRO-8-OXOGUANINE INTO DNA AND RNA IN MCF-7 CELLS FROM THE 2'-DEOXYNUCLEOTIDE POOL**  
Henderson PT, Mundt JM, Hah SS
- P27 **THE 8,5'-BOND IN CYCLO-2'DEOXYADENOSINE STABILIZES THE GLYCOSIDIC BOND AGAINST ACID HYDROLYSIS**  
Theruvathu JA, Jaruga P, Dizdaroglu M, Brooks PJ
- P28 **MICRONUCLEATED RETICULOCYTE MEASUREMENTS: LOW DOSE RADIATION BIODOSIMETER**  
Dertinger SD, Sugunan S, Ying T, Nowak I, Palis J, Okunieff P, Chen Y
- P29 **THE IMPACT OF *IN UTERO* IRRADIATION ON THE DEVELOPING GERMLINE**  
Barber RC, Hardwick R, Dubrova YE
- P30 **INCREASED FREQUENCIES OF CHROMOSOMAL STRUCTURAL ABERRATIONS IN SPERM OF CHINESE WORKERS OCCUPATIONALLY EXPOSED TO BENZENE**  
Marchetti F, Eskenazi B, Li G, Rappaport SM, Schmid TE, Waydyanatha S, Kurtovich EM, Wyrobek AJ
- P31 **EXAMINING THE ROLE OF p53 IN RADIATION-INDUCED MUTATIONS AT ESTR LOCI**  
Langlois NL, Mantha R, Somers CM, Quinn JS, Mitchel REJ, Boreham DR
- P32 **PRE-ADULTHOOD EXPOSURE TO G-RAY RADIATION DOES NOT INCREASE MUTANT FREQUENCY IN EPIDIDYMAL SPERMATOZOA OBTAINED FROM ADULT MICE**  
Xu G, Intano GW, McCarrey JR, Walter RB, McMahan CA, Walter CA
- P33 **IMPACT OF LOGISTICAL VARIATION IN SAMPLE HANDLING ON COMET RESULTS IN HUMAN LEUKOCYTES**  
Toraason M, Krieg E, Singh N

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Poster #

- P34 **POLYMORPHISMS OF XRCC1, XRCC3 AND XPD AND THE FREQUENCY OF MICRONUCLEI IN HUMAN LYMPHOCYTES OF INDUSTRIAL RADIOGRAPHERS**  
Cho YH, Choi JY, Ahn YS, Woo HD, Kang SJ, Chung HW
- P35 **CHRONIC LOW DOSE RADIATION EFFECTS ON RADIATION SENSITIVITY (ADAPTIVE RESPONSE, LOW DOSE HYPER-SENSITIVITY) AND GENOMIC INSTABILITY IN TK6 CELLS**  
Schwartz JL, Jordan R, Slovic J, Moruzzi A, Liber HL
- P36 **AN INTERNATIONAL, 4 LABORATORY ASSESSMENT OF THE ROBUSTNESS AND REPRODUCIBILITY OF THE GADD45A GENOTOXICITY ASSAY, GREENSCREENHC**  
Billinton N, Beerens D, Birrell L, van Gompel J, Hastwell PW, Rees R, Scott A, Walmsley RM, Webster TW, Windebank S, Woestenborghs F
- P37 **IDENTIFICATION OF BIOLOGICALLY RELEVANT GENOTOXINS USING GADD45a, A GENOTOXIC SPECIFIC BIOMARKER**  
Hastwell PW, Webster TW, Birrell L, Lynch AM, Billinton N, Harvey JS, Rees RW, Walmsley RW
- P38 **COMPARISON OF THE SENSITIVITIES OF THE SPOT TEST, THE MINISCREEN ASSAY AND THE STANDARD AMES ASSAY**  
Miyata N, Aoki T, Imaeda A, Watanabe K, Inui T, Kitamura K
- P39 **MINIATURIZED AND AUTOMATED *IN VITRO* MICRONUCLEUS SCREENING ASSAY**  
Avlasevich SL, Bryce SM, Dertinger SD
- P40 **EVALUATION OF A NOVEL MICRONUCLEUS ASSAY USING A HUMAN 3-D SKIN MODEL, EpiDerm™**  
Aardema MJ, Hu T, Gibson DP, Curren RD, Mun GC, Hayden PJ, Riley P, Morrall SW, Bailey RE
- P41 **VALIDATION OF PHOTO-COMET ASSAY AS A MODEL FOR THE PREDICTION OF PHOTOCARCINOGENICITY**  
Lee M, Kim JY

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Poster #

- P42 **DEVELOPMENT OF *IN SILICO* GENOTOXICITY EVALUATION STRATEGY ON SALMONELLA MICROSOME MUTATION AND *IN VITRO* CHROMOSOMAL ABERRATION FOR EXISTING INDUSTRIAL CHEMICALS IN JAPAN**  
Hayashi M, Hirose A, Kamata E, Akiyama H, Takahashi M, Morita T, Ema M
- P43 **USE OF HUMAN-DERIVED HEPATOMA CELL LINES FOR THE DETECTION OF DIETARY MUTAGENS, CO- AND ANTI-MUTAGENS: AN ALTERNATIVE SYSTEM TO THE USE OF VERTEBRATE ANIMALS IN MUTAGENICITY TESTING**  
Darroudi F, Ehrlich V, Wuillot A, Dubois T, Knasmueller S, Mersch-Sundermann V
- P44 **MULTIPLE-ENDPOINT CYTOTOXICITY AND GENOTOXICITY ASSAY OF CIGARETTE SMOKE CONDENSATES IN MOUSE L5178Y CELLS**  
Recio L, Kehl M, Winters J, Baldetti C, Richter P
- P45 **MICRONUCLEUS INDUCTION IN THE MOUSE LIVER BY NUMERICAL CHROMOSOME ABERRATION INDUCERS**  
Igarashi M, Setoguchi M, Takada S, Itoh S, Furuhashi K
- P46 **MICRONUCLEATED ERYTHROCYTE FREQUENCIES IN INFANTS EXPOSED TO NUCLEOSIDE ANTIRETROVIRAL DRUGS *IN UTERO* AND FOR 6 WEEKS POSTNATALLY TO PREVENT MOTHER-TO-CHILD TRANSMISSION OF HIV**  
Witt KL, Cunningham CK, Patterson KB, Kissling GE, Dertinger SD, Livingston E, Bishop JB
- P47 **BIOMEDICAL APPLICATIONS OF ACCELERATOR MASS SPECTROMETRY: KINETICS OF CARBOPLATIN-DNA BINDING IN GENOMIC DNA AND BLADDER CANCER CELLS**  
Hah SS, Henderson PT

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Poster #

- P48 **N-NITROSODIMETHYLAMINE: FROM LETHAL CONCENTRATIONS TO NOEC. SURVIVAL AND GENOTOXIC ACTIVITY-CONCENTRATION CURVE: EFFECTS ON FERTILITY AND TRANSGENERATIONAL INDUCTION OF SOMATIC MUTATION**  
Ramos-Morales P, Herrera-Bazan J, Muñoz-Moya JA, Muñoz-Hernandez A, Rivas-Martinez H, Hernandez-Bernal BR, Garcia-Martinez V, Garcia-Niño WR
- P49 **COMPUTER MODELING OF HERBICIDES IN FIBROBLAST GROWTH FACTOR RECEPTORS**  
Axtman MJ, Khandelwal A, van Gijssel HE
- P50 **EFFECT OF CHLOROPHENOXY HERBICIDES ON THE TRACHEAL DEVELOPMENT OF *DROSOPHILA MELANOGASTER* EMBRYOS**  
Caylor RC, Blunck BM, van Gijssel HE
- P51 **TRANSCRIPTIONAL PROFILING OF RAT HEPATIC RESPONSE TO Pb<sup>2+</sup> EXPOSURE VIA DRINKING WATER**  
Gato WEG, Means JCM
- P52 **DNA DAMAGE AND OXIDATIVE STRESS BY MUNICIPAL SLUDGE LEACHATE IN MICE**  
Bakare AA, Patel S, Pandey AK, Bajpayee M, Chowdhuri DK, Murthy RC, Singh KP, Dhawan A
- P53 **DIBROMONITROMETHANE-INDUCED INHIBITION OF CELL PROLIFERATION AND FORMATION OF DNA ADDUCTS IN THE LIVER OF MALE AND FEMALE F344 RATS**  
Kligerman AD, Khamdy A, Seed D, Abu-Zayed H, King L, George MH, DeAngelo A
- P54 **GENOTOXIC EFFECTS AT THE HPRT LOCUS AND IN METAPHASE CHROMOSOMES ANALYZED BY FISH IN DEPLETED URANIUM (DU) EXPOSED GULF WAR VETERANS**  
McDiarmid MA, Squibb KS, Gucer P, Engelhardt SM, Ardell SK, Albertini RJ
- P55 **CHROMOSOMAL ABERRATIONS MEASURED BY FISH PAINTING AS BIOMARKER OF AIR POLLUTION EXPOSURE TO CARCINOGENIC PAHs**  
Rossnerova A, Beskid O, Rossner P, Solansky I, Sram RJ

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Poster #

- P56 **SEMI-QUANTITATION OF POLYCYCLIC AROMATIC HYDROCARBON (PAH)-DNA ADDUCTS IN HUMAN PLACENTA BY IMMUNOHISTOCHEMISTRY (IHC) AND THE AUTOMATED CELLULAR IMAGING SYSTEM (ACIS): EFFECT OF SMOKING**  
Sirajuddin P, Pratt MM, Sram RJ, Manchester DK, Poirier MC
- P57 **INTERNATIONAL STUDY OF SOMATIC CELL TRANSLOCATION FREQUENCIES IN CONTROL POPULATIONS**  
Tucker JD, Kleinerman R, Ha M, Bhatti P, Hauptmann M, Sigurdson A, Sram RJ, Beskid O, Tawn EJ, Whitehouse C, Lindholm C, Kodama Y, Nakamura N, Vorobstova I, Oestreicher U, Stephan G, Yong L, Bauchinger M, Chung H-W, Darroudi F, Roy L, Barquinero J, Livingston G, Schmid E, Blakey D, Voisin P, Littlefield G, Edwards A
- P58 **DNA DAMAGE IN TWO COLOMBIAN POPULATIONS EXPOSED TO PESTICIDES**  
Muñoz AF, Groot H, Gutiérrez M
- P59 **LIMITATIONS ON THE USE OF HCL AS A VEHICLE FOR *IN VITRO* CHROMOSOMAL ABERRATIONS ASSAY IN HUMAN PERIPHERAL BLOOD LYMPHOCYTES**  
Murli H, Stojhovic G, Montague D, Trombley J, Castner M, Patel R, Lawlor T
- P60 **FLOW CYTOMETRIC ANALYSIS OF MICRONUCLEI IN MOUSE BONE MARROW: METHOD REFINEMENT**  
Torous DK, Krsmanovic LJ, Escobar PA, Sugunan S, Dertinger SD
- P61 **TECHNICAL CONSIDERATIONS AND THE EFFECTS OF CYTOTOXICITY ON THE INTERPRETATION OF *IN VIVO* COMET ASSAY DATA**  
Vasquez MZ
- P62 **THE MULTI-ENDOPOINT *IN VITRO* MICRONUCLEUS ASSAY USING MICROPLATE: SIMULTANEOUS EVALUATION OF CYTOTOXICITY AND DIFFERENTIATION BETWEEN CLASTOGENS AND ANEUGENS**  
Aruga C, Yamazaki H, Dekura E, Fujimura H, Toriumi W

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Poster #

- P63 **ASSESSING GASES IN THE BACTERIAL MUTATION AND IN THE CHROMOSOME ABERRATION TESTS - METHODOLOGY AND POSITIVE CONTROLS**  
Proudlock R, Fournier A, Thompson C, Registre M
- P64 **THE MUTAGENIC HAZARDS OF COMPLEX MIXTURES OF POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL**  
Lemieux CL, Lambert IB, Gagné R, Tysklind M, Lundstedt S, Douglas GR, White PA
- P65 **AN EVALUATION OF MUTAGENIC MODE OF ACTION FOR CARCINOGENICITY: ETHYLENE OXIDE**  
Keshava N, Jinot J, Sonawane B
- P66 **REVIEW OF ACRYLONITRILE MUTAGENICITY**  
Wong D, Allen J, Keshava C
- LB1 **TRIVALENT METHYLATED ARSENICALS INDUCE PROCOAGULANT ACTIVITY THROUGH PHOSPHATIDYLSERINE EXPOSURE IN HUMAN PLATELETS**  
Bae O, Lee CR, Park JD, Chung J
- LB2 **KINETICS OF DEALKYLATING ENZYME ALKB FROM *ESCHERICHIA COLI* AND ITS HUMAN HOMOLOGS**  
Bhagwat AS, Roy TW
- LB3 **DNA ADDUCT FORMATION IN MONONUCLEAR WHITE BLOOD CELLS FOLLOWING EXPOSURE TO BENZO(A)PYRENE-DIOL-EPOXIDE**  
LeBlanc A, Le XC
- LB4 **GLYCOGEN SYNTHASE KINASE 3 INHIBITORS INDUCED KINETOCORE POSITIVE MICRONUCLEI IN THE TK6 CELLS**  
Tanaka K, Takeir, A, Harada A, Sone S, Nishimura Y, Okazaki M, Mishima M
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**MONDAY, SEPTEMBER 18, 2006**

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7:00 AM - 6:00 PM

**Registration**

*Regency Foyer*

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7:00 AM - 8:30 AM

**BREAKFAST MEETINGS**

**Awards Committee**

*Plaza A*

**Nominating Committee**

*Plaza B*

**Student and New Investigator**

*Stanley Room*

**Epigenetics**

*Georgia A*

Chairspersons: Randy Jirtle, Duke University and  
David Sedwick, Case Western Reserve University

This will be the first meeting of investigators within the EMS who are interested in Epigenetics. The focus of this meeting will be to organize Epigenetics as a special interest group for the EMS and to ensure that this area is represented in future EMS meetings. Discussion will center on:

1) defining areas of epigenetic research that best overlap with interests of EMS members; 2) developing a forum for students and fellows in epigenetic research laboratories; 3) delineating goals of the group to ensure continuity of EMS epigenetic activities between meetings; 4) assigning organizational responsibilities and developing a format for future epigenetic SIG breakfast meetings.

**MONDAY, SEPTEMBER 18, 2006**

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7:00 AM - 8:30 AM

**BREAKFAST MEETINGS**

**Germ-Cell/Stem Cell/Human Genetics  
Special Interest Group**

*Georgia B*

Chairpersons: Steve S. Sommer, City of Hope and Jack B. Bishop,  
National Institutes of Environmental Health

This breakfast meeting will have two components. The first half of the meeting will consist of 3 short talks by Young Investigators. Dana Dolinoy from Duke University will discuss Environmental Influences on the Fetal Epigenome; Elisia Tichy from University of Cincinnati will discuss her work on DNA Double-Strand Break Repair in Mouse Embryonic Stem Cells and William Scaringe will talk about Human Germline Mosaicism. The second half of the meeting will be devoted to discussion of research directions in the area of human germ cell mutagenesis. To introduce the discussion, Jack Bishop and John Wassom will describe the recommendations of the Jackson Laboratory meeting on germ cell mutagenesis, which is recommending the immediate initiation of a human triad study using new genomic technologies to detect induced heritable gene changes along with the establishment of a bio-bank of samples, and Wassom's recent comments to SACGHS (HHS Secretary's Advisory Committee on Genetics, Health and Society), which will help NIH design a large population cohort project in the United States to examine genes, environments and their interaction to produce common diseases. Wassom's proposal to the NIH SACGHS is that NIH include in any population study the collection and tracking of triads (both parents and an offspring) to learn what that might teach us about germ cell mutagenesis. Documents being discussed will be distributed to SIG members prior to the meeting.



## MONDAY, SEPTEMBER 18, 2006

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8:30 AM - 11:20 AM

### **Epigenetic Determinants of Environmentally Induced Disease Symposium** *Regency F*

Chairperson: W. David Sedwick, Case Western Reserve University

- 8:30 AM      **S23    Epigenetics and Long-Range Interactions**  
*Speaker: Andrew R. Hoffman, Stanford University*
- 9:00 AM      **S24    Outcomes of Twenty Years of “CTCF-  
Research” Implicate Various CTCF/BORIS  
Targets as a Unifying Mechanistic Link in  
Region-specific Processes of Epigenetic  
Regulation**  
*Speaker: Victor Lobanenkov, LIP/NIAID/NIH*
- 9:30 AM      **S25    Impact of DNA Damage on Epigenetic Signals**  
*Speaker: Lawrence C. Sowers, Loma Linda University*
- 10:00 AM      BREAK
- 10:20 AM      **S26    Early Nutrition and Your Epigenomes**  
*Speaker: Robert A. Waterland, Baylor College of Medicine*
- 10:50 AM      **S27    Epigenetic Effectors Hold the Key to  
Understanding Bystander Effects: Roles of  
DNA Methylation, Histone Modifications and  
MicroRNAs**  
*Speaker: Olga V. Kovalchuk, University of Lethbridge*

## MONDAY, SEPTEMBER 18, 2006

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8:30 AM - 11:20 AM

### **Impact of Genomic Technologies on Regulatory Policies Symposium** *Regency D*

Chairpersons: Kerry L. Dearfield, U.S. Department of Agriculture  
and James C. Fuscoe, U.S. FDA, National Center for Toxicological  
Research

- 8:30 AM      **S28**      **QA/QC Issues to Aid Regulatory Acceptance  
of Microarray Gene Expression Data**  
*Speaker: James C. Fuscoe, U.S. FDA, National  
Center for Toxicological Research*
- 8:45 AM      **S29**      **Investigational and Regulatory Review  
Applications of Genomic Data at the U.S. FDA**  
*Speaker: Federico Goodsaid, U.S. FDA, Center  
for Drug Evaluation and Research*
- 9:10 AM      **S30**      **Potential Impacts of Genomics on EPA  
Regulatory and Risk Assessment Applications**  
*Speaker: William H. Benson, U.S.  
Environmental Protection Agency*
- 9:35 AM      **S31**      **Application of Toxicogenomics to Genetic  
Toxicology Risk Assessment**  
*Speaker: Veronique T. Thybaud, Sanofi Aventis*
- 10:00 AM      BREAK
- 10:20 AM      **S32**      **U.S.D.A.–Opportunities for Food–Borne  
Pathogen Genomics**  
*Speaker: Kerry L. Dearfield, U.S. Department  
of Agriculture*
- 10:35 AM      **S33**      **From Genomics to Mechanistic Insight: A  
Growing Presence in Medicine and Regulatory  
Decision Making**  
*Speaker: Kenneth S. Ramos, University of  
Louisville*

**MONDAY, SEPTEMBER 18, 2006**

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11:00 AM      **S34**      **Health Canada Perspective on Establishment  
of QA/QC Standards and Interpretation of  
Microarray Data**  
*Speaker: Carole L. Yauk, Health Canada*

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## MONDAY, SEPTEMBER 18, 2006

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8:30 AM - 10:00 AM

### Mutagenesis and Carcinogenesis Platform Session *Regency E*

Chairperson: Andrew B. Buermeyer, Oregon State University

- 8:30 AM      **7**      **HUMAN CANCERS EXHIBIT A  
MUTATOR PHENOTYPE**  
Bielas JH, Vermulst M, Loeb KR, Rubin BP,  
True LD, Loeb LA
- 8:45 AM      **8**      **A GASTRIC CANCER VARIANT OF DNA  
POLYMERASE BETA INDUCES  
CELLULAR TRANSFORMATION BY A  
MUTATIONAL MECHANISM**  
Sweasy JB, Dalal S, Lang T
- 9:00 AM      **9**      **THE ROLE OF DNA POLYMERASE BETA  
IN SOMATIC HYPERMUTATION**  
Poltoratsky VP, Prasad R, Horton JK,  
Wilson SH
- 9:15 AM      **10**      **LOSS OF DNA POLYMERASE ZETA  
CAUSES CHROMOSOMAL INSTABILITY  
IN MAMMALIAN CELLS**  
Wittschieben JP, Gan G, Wittschieben BO,  
Wood RD
- 9:30 AM      **11**      **DNA MISMATCH REPAIR-DEPENDENT  
APOPTOTIC RESPONSES TO THE  
FOOD-BORNE CARCINOGEN  
2-AMINO-1-METHYL-6-PHENYL-  
IMIDAZO[4,5-B]PYRIDINE (PHIP) AND  
1,2-DIMETHYLHYDRAZINE (DMH) IN  
MURINE COLON**  
Smith-Roe SL, Fischer KA, Loehr CV,  
Glazer PM, Buermeyer AB
- 9:45 AM      **12**      **THE GENOMIC, PROTEOMIC, AND  
LIPIDOMIC RESPONSES TO  
GENOTOXIN MNNG**  
Yang J

## MONDAY, SEPTEMBER 18, 2006

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10:20 AM - 11:20 AM

**Structural Biology of Replication,  
Recombination and Repair:  
Complexes and Consequences Platform Session**  
*Regency E*

Chairperson: John A. Tainer, The Scripps Research Institute

- 10:20 AM      **13**      **AFM AND SINGLE-MOLECULE  
FLUORESCENCE STUDIES OF MutS-DNA  
INTERACTIONS REVEAL THE  
MECHANISM OF MISMATCH  
RECOGNITION**  
Tessmer I, Yang Y, Sass L, Hsieh P, Erie DA
- 10:35 AM      **14**      **ASSEMBLED STRUCTURE OF THE  
Mre11/RAD50/DNA COMPLEX FROM  
X-RAY SOLUTION SCATTERING  
AND CRYSTALLOGRAPHY**  
Williams RS, Moncalian G, Shin DS,  
Chahwan C, Groocock LM, Hitomi C, Hura GL,  
Hartzman D, Carney JP, Russell P, Tainer JA
- 10:50 AM      **15**      **CRYSTAL STRUCTURE OF THE  
BACTERIAL REPLICATIVE DNA  
POLYMERASE III**  
Lamers MH, Georgescu R, Lee SG,  
O'Donnell M, Kuriyan J
- 11:05 AM      **16**      **CORRECTING DNA STRAND BREAKS AT  
THE REPLICATION FORK:  
STRUCTURAL ANALYSIS OF PCNA  
INTERACTION WITH DNA LIGASE AND  
THE ACTIVATION OF DNA  
END-JOINING**  
Pascal J, Tsodikov O, Hura G, Tainer J,  
Ellenberger T

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11:20 AM - 1:00 PM

**Networking/Interaction Time**  
(Lunch on Own)

## MONDAY, SEPTEMBER 18, 2006

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1:00 PM - 3:50 PM

### **Personalized Drug Treatment Intervention in the Post-Genomic Era Symposium** *Regency E*

Chairpersons: Warren W. Ku, Pfizer Inc. and Peggy J. Guzzie,  
Pfizer Inc.

*Contributing Sponsor: Pfizer Inc.*

- |         |            |   |
|---------|------------|---|
| 1:00 PM | <b>S35</b> | <b>Introduction to Pharmacogenomics and Genomic Medicine</b><br><i>Speaker: Patrice M. Milos, Pfizer Inc.</i>   |
| 1:30 PM | <b>S36</b> | <b>Human DNA Variation, Genetic Association, and Complex Traits</b><br><i>Speaker: Kelly Frazer, Perlegen Sciences, Inc.</i>  |
| 2:00 PM |            | BREAK   |
| 2:20 PM | <b>S37</b> | <b>Bridging the Preclinical to Clinical Gap: The Search for Novel Clinical Safety Biomarkers</b><br><i>Speaker: Cecelia Pearson, Iconix Pharmaceuticals, Inc.</i>               |
| 2:50 PM | <b>S38</b> | <b>Measuring the Value of Pharmacogenomics</b><br><i>Speaker: Carlo A. Marra, Vancouver Coastal Health Research Institute</i>   |
| 3:20 PM | <b>S39</b> | <b>The Regulatory Perspective on Pharmacogenomics: Nonclinical and Clinical Aspects</b><br><i>Speaker: Federico Goodsaid, U.S. FDA, Center for Drug Evaluation and Research</i> |

## MONDAY, SEPTEMBER 18, 2006

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1:00 PM - 3:50 PM

### **Mitigating the Impact of Bioterrorism and Natural Disasters on Public Health Symposium** *Regency F*

Chairpersons: James D. Tucker, Wayne State University  
and S. Elizabeth George, Department of Homeland Security

*Primary Sponsor: Department of Homeland Security*

- |         |            |   |
|---------|------------|---|
| 1:00 PM | <b>S43</b> | <b>Biological Security: Surveillance and Detection</b><br><i>Speaker: Elizabeth George, Department of Homeland Security</i>   |
| 1:30 PM | <b>S42</b> | <b>Principles of Human Exposure Science Needed to Assess 9-11 Health Outcomes and Future Acts of Terrorism</b><br><i>Speaker: Paul Lioy, Environmental and Occupational Health Sciences Institute, Rutgers University</i> |
| 2:00 PM |            | BREAK   |
| 2:20 PM | <b>S40</b> | <b>Radiation Detection Technologies Applicable to Mitigation of the Impact of a Dirty Bomb</b><br><i>Speaker: James D. Tucker, Wayne State University</i>   |
| 2:50 PM | <b>S41</b> | <b>Black Biochemistry: Natural Toxins and Bioterrorism</b><br><i>Speaker: Mark Poli, U.S. Army Medical Research Institute of Infectious Disease</i>   |
| 3:20 PM | <b>S44</b> | <b>The Emerging Threat of Avian Influenza: The Role of Molecular Genetics in Surveillance</b><br><i>Speaker: Michael Shaw, Center for Disease Control</i>   |

## MONDAY, SEPTEMBER 18, 2006

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1:00 PM - 3:50 PM

### **Heterogeneity of Damage Processing Across the Genome Symposium** *Regency D*

Chairpersons: Michael J. Smerdon, Washington State University  
and Raymond Reeves, Washington State University

- |         |            |  |
|---------|------------|--|
| 1:00 PM | <b>S45</b> | <b>DNA Repair in Chromatin: Searching for the Key to Get In</b><br><i>Speaker: Michael J. Smerdon, Washington State University</i>   |
| 1:30 PM | <b>S46</b> | <b>Operating Within the Confines of Chromatin: Base Excision Repair in Nucleosomes</b><br><i>Speaker: Jeffrey J. Hayes, University of Rochester Medical Center</i>   |
| 2:00 PM |            | BREAK  |
| 2:20 PM | <b>S47</b> | <b>Chromatin Remodeling and DNA Repair: Multiple Roles for Chromatin Remodeling Enzymes in Repair of DNA Double Strand Breaks</b><br><i>Speaker: Craig L. Peterson, University of Massachusetts Medical School</i> |
| 2:50 PM | <b>S48</b> | <b>Chromatin Remodeling and DNA Repair: Targeting the Chromatin Remodeling Complex Swi/Snf to Nucleotide Excision Repair in Chromatin</b><br><i>Speaker: Feng Gong, Washington State University</i>                |
| 3:20 PM | <b>S49</b> | <b>Modulation of Epigenetic Signalling and DNA-Damage Responses by Chromatin-Binding Architectural Proteins</b><br><i>Speaker: Michael Bustin, National Cancer Institute</i>                                       |



**MONDAY, SEPTEMBER 18, 2006**

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3:50 PM - 4:50 PM

**Plenary Lecture**

*Regency D*

Marco A. Marra

Michael Smith Genome Sciences Center

**Variation in Human Genomes and Implications  
for Health Research**

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## MONDAY, SEPTEMBER 18, 2006

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5:00 PM - 6:30 PM

### **Molecular Epidemiology and High Throughput Technology Platform Session** *Regency E*

Chairpersons: Andrew J. Wyrobek, Lawrence Berkeley National  
Laboratory and Li Jin, Fudan University, Shanghai, China

- |         |    |   |
|---------|----|---|
| 5:00 PM | 17 | <b>ASSOCIATION STUDY OF LUNG<br/>CANCER AND ERCC POLYMORPHISM</b><br>Qian L, Shao M, Lu D, <u>Jin L</u>   |
| 5:30 PM | 18 | <b>GENE EXPRESSION PROFILING OF<br/>PERIPHERAL BLOOD MONONUCLEAR<br/>CELLS FROM BENZENE-EXPOSED<br/>WORKERS</b><br>McHale CM, Lan Q, Hubbard AE, Li G,<br>Vermeulen R, Chen J, Shen M, Rappaport SM,<br>Yin S, Smith MT, Rothman N, <u>Zhang L</u>      |
| 5:45 PM | 19 | <b>INCREASED HUMAN DNA STRAND<br/>DAMAGE IS ASSOCIATED WITH<br/>OCCUPATIONAL EXPOSURE TO<br/>BENZENE</b><br><u>Schmid TE</u> , Eskenazi B, Marchetti F,<br>Gopalan R, Li G, Anderson D, Rappaport S,<br>Kurtovich E, Wyrobek AJ                         |
| 6:00 PM | 20 | <b>POLYMORPHISMS IN FOLATE<br/>METABOLISM AFFECT THE LEVEL OF<br/>CHROMOSOMAL ABERRATIONS IN<br/>HUMAN LYMPHOCYTES</b><br><u>Norppa H</u> , Heilimo I, Rosenström P, Kiuru A,<br>Tuimala J, Maunu H, Järventaus H, Hirvonen A,<br>Metsola K, Lindholm C |
| 6:15 PM | 21 | <b>TRANSCRIPTIONAL SIGNATURES AND<br/>POTENTIAL BIOMARKERS OF ASPHALT<br/>FUME EXPOSURE IN RAT EPITHELIAL<br/>CELLS USING DNA MICROARRAYS</b><br><u>Keshava C</u> , Keshava N, Law BF, Weston A   |

## MONDAY, SEPTEMBER 18, 2006

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4:50 PM - 7:30 PM

**Exhibits  
and  
Poster Session II**  
*Regency ABC*

*Primary Sponsor: Integrated Laboratory Systems, Inc. (ILS)*

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Odd numbered posters to be attended from 4:50 PM – 6:15 PM

Even numbered posters to be attended from 6:15 PM – 7:30 PM

Presenting author underlined

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Poster #

- P67 **INDUCTION OF LACZ MUTATIONS IN MUTA™MOUSE CAN DISTINGUISH CARCINOGENIC FROM NON-CARCINOGENIC ANALOGUES OF DIAMINOTOLUENES AND NITRONAPHTHALENES**  
Beevers C, Kirkland D
- P68 **DIFFERENTIAL MUTAGENIC RESPONSE OF NITROCOMPOUNDS IN ACCORDANCE TO NITROREDUCTASE ACTIVATION**  
Salamanca-Pinzón SG, Espinosa-Aguirre JJ, Camacho-Carranza R, Hernández-Ojeda SL
- P69 **HPRT MUTATIONS IN 1,3-BUTADIENE POLYMER WORKERS IN SOUTHEAST TEXAS**  
Wickliffe JK, Ammenheuser MM, Abdel-Rahman SZ, Whorton Jr EB, Ward Jr JB
- P70 **ANALYSIS OF THE DOSE RESPONSE RELATIONSHIP FOR TWO AZO DYES AT LOW BIOLOGICALLY RELEVANT DOSES**  
Quick EL, Johnson GE, Parry EM, Parry JM
- P71 **HYDROQUINONE INDUCED SPECIFIC CHROMOSOME ANEUPLOIDY AND CLASTOGENICITY IN HUMAN LYMPHOBLASTOID TK6 CELLS**  
Azuma M, Ji Z, Woo J-Y, Smith MT, Luoping Z

## MONDAY, SEPTEMBER 18, 2006

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Poster #

- P72 **DISRUPTION OF THE *SACCHAROMYCES CEREVISIAE* MITOCHONDRIAL NADH KINASE GENE (*POS5*) RESULTS IN DOWN-REGULATION OF THE OXIDATIVE STRESS RESPONSE AND AN ANAEROBIC PHENOTYPE**  
Stuart GR, Copeland WC, Strand MK
- P73 **INDUCTION OF DNA DAMAGE AND MICRONUCLEI BY NANOSIZED TITANIUM DIOXIDE IN BEAS 2B CELLS**  
Falck GC-M, Sandvik H, Suhonen S, Norppa H
- P74 **THE ANTIRETROVIRAL NUCLEOSIDE ANALOG ZIDOVUDINE (AZT) INDUCES CENTROSOMAL ABERRATIONS IN CULTURED HUMAN CELLS *IN VITRO***  
Ming JM, Ward Y, Semino-Mora C, Robinson EJ, Cooch C, Poirier MC, Olivero OA
- P75 **A CRITICAL REVIEW OF THE ROLE OF GENOTOXICITY IN FORMALDEHYDE-INDUCED CARCINOGENICITY: RELEVANCE TO PUBLIC HEALTH**  
DeVoney D, Thompson CM, Keshava C, Hsu CH, Whalan JE
- P76 **TRANSCRIPTIONAL RESPONSE OF *SALMONELLA* TO MX: ALTERATION OF GENES INVOLVED IN CELLULAR MEMBRANE TRANSPORT AS A POSSIBLE CONTRIBUTING MECHANISM OF THE CARCINOGENICITY OF MX**  
Ward WO, Swartz CD, Porwollik S, Warren SH, Hanley NM, McClelland M, DeMarini DM
- P77 **Withdrawn**
- P78 **CHANGES IN THE ANTIOXIDANT BARRIER AND PHASE II REGULATOR GENE Nrf2 IN RESPONSE TO ATMOSPHERIC POLLUTANTS (OZONE AND VOLATILE ORGANIC COMPOUNDS)**  
Rubio V, Valverde M, Rojas E
- P79 **THE RELATIVE MUTAGENIC ACTIVITY OF TOBACCO AND CANNABIS SMOKE CONDENSATES**  
Maertens RM, White PA, Moir D, Rickert WS, Levasseur G, Douglas GR, Desjardins S

## MONDAY, SEPTEMBER 18, 2006

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Poster #

- P80 **ANTIGENOTOXIC AND ANTIOXIDANT EFFECT OF *STEVIA PILOSA* AND *STEVIA EUPATORIA* EXTRACTS IN MICE TREATED WITH DAUNORUBICIN**  
Cariño-Cortés R, Torres-Valencia M, Hernández-Ceruelos A
- P81 **OPTIMAL SENSITIVITY AND REPRODUCIBILITY OBTAINED WITH FORWARD MUTATION *SALMONELLA* STRAIN Tm677pYG219, USING THE MODIFIED-ULTRAFORWARD PROTOCOL**  
Abu-Shakra A
- P82 **A DIRECT COMPARISON OF THE PHIX174 TRANSGENIC MUTATION ASSAY TO THE *LACI* ASSAY**  
Valentine CR, Dobrovolsky VN, Shaddock JG, Rainey HF, Farrell JM
- P83 **ALTERED MUTATION LOAD IN ADIPOSE TISSUE IN BIG BLUE MICE WITH CHRONIC CONSUMPTION OF DIETARY ANIMAL FATS**  
Wang J, Hill KA, Liu N, Tsai B, Nelson N, Sommer SS
- P84 **PRENATAL AND ADULT EXPOSURES TO X-RAYS INDUCE DIFFERENT SOMATIC MUTATIONS**  
Liang L, Deng L, Mendonca MS, Chen Y, Stambrook PJ, Shao C, Tischfield JA
- P85 **REDUCED APOPTOSIS AND INCREASED DELETION MUTATIONS *IN VIVO* IN MICE EXPOSED TO REPEATED IONIZING IRRADIATION**  
Deng L, Liang L, Mendonca MS, Nguyen SC, Tischfield JA, Shao C
- P86 **SISTER CHROMATID EXCHANGE RATE IN MICE PREIMPLANTATION EMBRYOS AFTER FREEZING AND THAWING WITH TWO DIFFERENT METHODS**  
Pour-Jafari H, Amiri I
- P87 **TARGETING SWI/SNF TO NUCLEOTIDE EXCISION REPAIR IN CHROMATIN**  
Gong F, Fahy D, Smerdon MJ

## MONDAY, SEPTEMBER 18, 2006

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Poster #

- P88 **NUCLEOTIDE EXCISION REPAIR IN SWI/SNF-INDEPENDENT (SIN) HISTONE MUTANTS IN *SACCHAROMYCES CEREVISIAE***  
Nag R, Gong F, Fahy D
- P89 **NUCLEOTIDE EXCISION REPAIR IN HISTONE H3 METHYLATION MUTANTS OF *SACCHAROMYCES CEREVISIAE***  
Chaudhuri S, Rodriguez A, Wyrick J, Smerdon M
- P90 **GAINING ACCESS TO DNA DAMAGE IN CHROMATIN: DISSECTING BASE EXCISION REPAIR IN OLIGONUCLEOSOME TEMPLATES**  
Nakanishi S, Smerdon MJ
- P91 **NOVEL OXANINE DNA GLYCOSYLASE ACTIVITIES IN MAMMALIAN SYSTEMS**  
Dong L, Meira LB, Hazra TK, Samson LD, Cao W
- P92 **IMPACT OF CONTAMINATION WITH TRITIUM OR RADIO-CARBON AT CELL LEVEL**  
Saintigny Y, Roche S, Meynard D, Lopez B
- P93 **ARSENIC AND DNA DAMAGE RESPONSES IN HeLa CELLS**  
Henricksen LA, Liu S, Dixon K
- P94 **IS GLOBAL GENOME REPAIR (GGR) COMPROMISED IN NEURAL CELLS?**  
Ramos P, Rojas E, Valverde M
- P95 **NUCLEOTIDE EXCISION REPAIR OF ADDUCTS FROM DIFFERENT PAH DIOL-EPOXIDES**  
Lagerqvist A, Hakansson D, Erixon K, Jenssen D
- P96 **EFFECT OF POLYMORPHISMS IN THE MGMT ENHANCER REGION ON BASAL TRANSCRIPTION AND RESPONSE TO ALKYLATING AGENTS**  
Hill CE, Kinslow CJ, Wickliffe JK, Wolfe KJ, Abdel-Rahman SZ

## MONDAY, SEPTEMBER 18, 2006

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Poster #

- P97 **DYNAMICS OF TWO DNA GLYCOSYLASES FOR OXIDATIVE STRESS**  
Hitomi K, Arvai AS, Mol CD, Huffman JL, Parikh S, Han YS, Cunningham RP, Iwai S, Tainer JA
- P98 **INFLUENCE OF CHROMATIN STRUCTURE ON THE MIGRATION OF TYPE I DNA OXIDATIVE DAMAGE**  
Bjorklund CC, Davis WB
- P99 **GSM 1800 MHZ RF EMF DO NOT INDUCE DNA DOUBLE-STRAND BREAKS IN HUMAN AMNION FL CELLS**  
Zeng Q, Zhang D, Xu Z, Lu D, Chiang H
- P100 **HIGH RESOLUTION GENOMIC ANALYSIS OF IMMORTALIZED HUMAN CELLS AND TUMOR CELLS USING ARRAY- BASED COMPARATIVE GENOMIC HYBRIDIZATION**  
Kohara A, Ozawa Y, Ohtani A, Shioda S, Takeuchi K, Takeuci M, Morita K, Hirano T, Honma M, Suzuki T, Masui T, Mizusawa H
- P101 **FACTOR IX GERMLINE MUTATIONS IN EARLY EMBRYO: PREFERENTIAL OCCURRENCE OF G:C>A:T NON-CPG TRANSITIONS**  
Scaringe WA, Drost JB, Li X, Halangoda A, Hill KA, Ketterling RP, Casper CK, Sommer SS
- P102 **MULTI-TISSUE SPONTANEOUS MUTATION LOAD PROFILES IN YOUNG ADULT MALE BIG BLUE MICE**  
Tarnowski HE, Prtenjaca A, Hill KA
- P103 **INTEGRATING NEW TECHNOLOGIES INTO THE ASSESSMENT OF HERITABLE GENETIC EFFECTS**  
Elespuru RK
- P104 **PROMOTER METHYLATION CONTROLS THE INTRATUMORAL HETEROGENEITY OF CANCER/TESTIS ANTIGENS EXPRESSION IN HUMAN CUTANEOUS MELANOMA: IMMUNOTHERAPEUTIC IMPLICATIONS OF EPIGENETIC DRUGS**  
Fratta E, Sigalotti L, Coral S, Covre A, Nicolay H, Pezzani L, Cortini E, Colizzi F, Fonsatti E, Altomonte M, Maio M

## MONDAY, SEPTEMBER 18, 2006

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Poster #

- P105 **THE EPIGENETICS OF THE BYSTANDER EFFECT: ANIMAL AND PLANT MODELS**  
Zemp FJ, Kovalchuk I, Kovalchuk O
- P106 **EPIGENETIC DYSREGULATION UNDERLIES THE RADIATION-INDUCED TRANSGENERATION GENOME: INSTABILITY *IN VIVO***  
Baker M, Koturbash I, Loree J, Kutanzi K, Pogribny I, Kovalchuk O
- P107 **TUMOUR PROMOTERS, GAP JUNCTIONAL INTERCELLULAR COMMUNICATION AND CHEMOPREVENTIVE EFFECT**  
Zefferino R, Piccaluga S, Lasalvia M, D'Andrea A, Ambrosi L
- P108 **CHROMATIN MODIFICATIONS THAT DRIVE MUTAGENESIS AT IMMUNOGLOBULIN LOCI**  
Cummings WJ, Yabuki M, Bednarski DW, Maizels N
- P109 **DNA METHYLTRANSFERASE I (DNMT1), AN ESSENTIAL ENZYME FOR MAINTENANCE OF GENE SILENCED PHENOTYPES IN A CELL LINE ISOLATED FROM A SPORADIC COLON CANCER**  
Sedwick WD, Bao C, Polinkovsky A, Veigl ML
- P110 **Withdrawn**
- P111 **MOUSE MICRONUCLEUS TEST ON PERIPHERAL BLOOD RETICULOCYTES: VALIDATION OF FLOW CYTOMETRIC ANALYSIS**  
van der Leede BM, De Boeck M, Van Goethem F, Van Gompel J
- P112 **QUANTITATIVE *IN VIVO* MOUSE MODEL FOR EVALUATING TRANSLATIONAL BYPASS THERAPY: GENETICIN MULTI-DAY RESPONSE**  
Sommer SS, Yang C, Feng J, Song W, Wang J, Tsai B, Zhang Y, Hill KA, High KA
- P113 **ANALYSIS AUTOMATION OF THE *IN VIVO* MICRONUCLEUS ASSAY: A NEW CLASSIFIER FOR THE SLIDE SCANNING PLATFORM META FER**  
Schunck C, Haub P



## MONDAY, SEPTEMBER 18, 2006

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Poster #

- P114 **COMPARISON OF 1 CYCLE AND 2 CYCLE RNA LABELLING METHODS FOR MICROARRAY-BASED TRANSCRIPTION PROFILING ANALYSIS WITH LASER CAPTURE MICRODISSECTED SAMPLES**  
Plummer SM, Smith S, Hill T, Xiao J, Sauer U
- P115 **CGH AND SNP ARRAYS ARE POWERFUL TOOLS FOR CHROMOSOME ANALYSIS**  
Luan Y, Honma M, Suresh T, Kogi M, Yamaguchi T, Suzuki T
- P116 **GENE EXPRESSION CHANGES IN MOUSE BLADDER TISSUE IN RESPONSE TO INORGANIC ARSENIC**  
Yager JW, Kenyon EM, Clewell H, Thomas R, Hughes MF, Crecelius EA
- P117 **EVALUATION AND VALIDATION OF HOUSEKEEPING GENES IN RESPONSE TO IONIZING RADIATION AND CHEMICAL EXPOSURE FOR NORMALIZING RNA EXPRESSION IN REAL TIME PCR**  
Banda M, Bommineni A, Thomas R, Tucker J
- P118 **UNTARGETED GERMLINE MUTATIONS IN JAPANESE MEDAKA EXPOSED TO GAMMA RADIATION**  
Glenn TC, Tsyusko OV, Thompson E, Aizawa K, Yi Yi, Coughlin D, Hinton TG
- P119 **MODELING HUMAN TB USING THE SMALL FISH MODEL JAPANESE MEDAKA: INVESTIGATIONS INTO INCREASED RISKS OF CARCINOGENESIS AND CHRONIC INFLAMMATION**  
Ennis DG, Mutoji NK, Broussard GW
- P120 **SHARED MECHANISMS OF MUTAGENESIS REVEALED BY MUTATIONAL SPECTRA IN  $\lambda$  TRANSGENIC MEDAKA**  
Ritger SE, Norris MW, Winn RN
- P121 **IDENTIFICATION OF HYPOXIA-RELATED BIOMARKER PROTEINS IN MEDAKA (*ORIZIAS LATIPES*) TISSUES AND CULTURED CELLS BY MULTIDIMENSIONAL SEPARATION AND *DE NOVO* PEPTIDE SEQUENCING VIA MALDI-TOF-MS**  
Walter RB, Oehlers LP, Heater SJ, Wells MC, Ju Z, Wise Sr. JP

**MONDAY, SEPTEMBER 18, 2006**

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Poster #

- P122 **THE GUPPY *CURVEBACK* SYNDROME AS A MODEL FOR HUMAN HERITABLE SPINAL CURVATURE**  
Gorman KF, Breden FJ
- P123 **INTEGRATION OF SELECTIVE EXTRACTION PROCEDURES, CHEMICAL ANALYSIS AND SPECIFIC STRAINS OF THE SALMONELLA/MICROSOME ASSAY IN A CAUSE-EFFECT STUDY – THE CRISTAIS RIVER CASE**  
Umbuzeiro GA
- P124 **DNA DAMAGE INDUCED BY UVA COMBINED WITH BENZO(A)PYRENE VIA REACTIVE OXYGEN SPECIES**  
Woo HD, Kim YJ, Kang SJ, Cho YH, Chi JY, Ahn YS, Chung HW
- P125 **DIFFERENTIAL RESPONSES IN *IN VITRO* CYTOGENETIC ASSAYS FOR AN ANTI-HIV DRUG IN CELL LINES OF CHO-WBL, CHL AND HUMAN PERIPHERAL LYMPHOCYTES**  
Mauthe RJ, Stevens GJ, Dalal NC, Lu S, Bauer MJ, Zubrickas KR, Puskorius RL, Yu RL
- P126 **MICRONUCLEUS STUDIES IN THE PERIPHERAL BLOOD AND BONE MARROW OF MICE TREATED WITH JET FUELS, JP-8 AND JET-A**  
Vijayalaxmi, Kligerman AD, Ullrich SE
- P127 **EVALUATION OF TEMPORAL CHANGES IN CYTOGENETIC DAMAGE *IN VIVO* AFTER PARTICLE RADIATION EXPOSURE**  
Doppalapudi R, Lin S, Puey A, Bakke J, Chang P
- P128 **THE *IN VITRO* MICRONUCLEUS TEST IN HUMAN PERIPHERAL BLOOD LYMPHOCYTES: OBSERVATIONS FROM DATA OBTAINED COMMENCING 24 OR 48 HOURS AFTER PHA STIMULATION**  
Clare M, Fowler P, Whitwell J, Lloyd M, Kumaravel TS, Clements J

## MONDAY, SEPTEMBER 18, 2006

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Poster #

- P129 **CLASTOGENICITY, PHOTO-CLASTOGENICITY OR PSEUDO-PHOTO-CLASTOGENICITY: GENOTOXIC EFFECTS OF ZINC OXIDE IN THE DARK, IN PRE-IRRADIATED OR SIMULTANEOUSLY-IRRADIATED CHINESE HAMSTER OVARY CELLS**  
Dufour EK, Kumaravel TS, Nohynek GJ, Kirkland DJ, Toutain H
- LB5 **PROCESSING OF UG MISMATCHED DNA BY HUMAN MISMATCH REPAIR PATHWAY**  
Larson ED, Cummings WJ, Streiff RJ, Maizels N
- LB6 **LONG INTERALLELIC GENE CONVERSION TRACTS ARE STRONGLY ASSOCIATED WITH CROSSING-OVER IN HUMAN CELLS**  
Neuwirth EAH, Honma M, Grosovsky AJ
- LB7 **URACIL-DNA NUCLEASE: UNIQUE SPECIFICITY AND PHYSIOLOGICAL ROLE**  
Bekesi A, Felfoldi F, Pukancsik M, Muha, V, Zagyva I, Leveles I, Klement E, Buzas K, Medzihradzky KF, Vertessy BG
- LB8 ***IN SILICO* IDENTIFICATION OF TRANSCRIPTIONAL REGULATORY MECHANISMS OF CXC CHEMOKINES IN RESPONSE TO LOW DOSE IONIZING RADIATION**  
Coleman MA, Krefft A, Xin, X, Peterson LE, Critchlow T
- LB9 **COMPARISON OF GENETIC EFFECTS FROM SEVERAL IONIZING RADIATION QUALITIES AT AN EQUIVALENT DOSE USING A RECOMBINATIONAL ASSAY IN A HUMAN LYMPHOBLASTOID CELL LINE**  
Pliego KI, Neuwirth EAH, Grosovsky AJ
- LB10 **A NOVEL MUTATION IDENTIFIED IN FIVE TISSUES OF FIVE BIG BLUE MICE IS ALSO DETECTED DIRECTLY IN MURINE TISSUES USING A BI-PASA ASSAY**  
Crabbe RA, Prtenjaca A, Tarnowski HE, Hill KA

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**MONDAY, SEPTEMBER 18, 2006**

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Poster #

**LB 11 THE BRCA2-ASSOCIATED PROTEIN DSS1  
REGULATES HOMOLOGOUS RECOMBINATIONAL  
REPAIR IN HUMAN CELLS**

Kristensen C, Bystol KM, Chen F, Serrano de la Pena L,  
Brenneman MA

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**TUESDAY, SEPTEMBER 19, 2006**

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7:00 AM - 12:30 PM

**Registration**  
*Regency Foyer*

**TUESDAY, SEPTEMBER 19, 2006**

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7:00 AM - 8:30 AM

**BREAKFAST MEETINGS**

**EMS Executive Board**

*Brighton*

**Public Relations Committee**

*Plaza A*

**DNA Repair Special Interest Group**

*Georgia B*

Chairperson: Mats Ljungman, The University of Michigan

This breakfast meeting will be devoted to a discussion of both short term and long term funding issues affecting research on DNA repair. What study section(s) are best for review of DNA repair grant proposals? How will the present funding crisis affect the future of our field? We will be joined by Drs. Paul Okano and Syed Quadri, who will give short presentations on how to navigate the Center for Scientific Review and the National Cancer Institute, and who have many years of experience with study sections scientific grant review.

**Risk Assessment Special interest Group**

*Georgia A*

Chairpersons: David Eastmond, University of California - Riverside and Barbara Parsons, US FDA/National Center for Toxicological Research

This year's meeting will focus on the incorporation of mutagenic and carcinogenic data into risk assessment and what's new from a regulatory perspective. Dr. Dan Levy from the US Food & Drug Administration will present "The ABCs of Dietary Supplement Cancer Risk Assessment," Dr. George Douglas from Health Canada will present "Getting the Right Answers: The Hazards in Risk Assessment," and Dr. David Kirkland from Covance Laboratories will present "Interpreting and Reducing Irrelevant Positive Results *In Vitro*: Recommendations from the IWGT, ECVAM, and ILSI Workshops." These presentations will be followed by an informal group discussion.

**TUESDAY, SEPTEMBER 19, 2006**

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8:30 AM - 9:30 AM

**Keynote Lecture**

*Regency D*

Leroy Hood

Institute of Systems Biology

**Systems Biology and Systems Medicine**

*Contributing Sponsor: Merck Research Laboratories*

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9:30 AM - 11:00 AM

**EMS Business Meeting**

**and**

**Traval Award Presentations**

*Regency D*

## TUESDAY, SEPTEMBER 19, 2006

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11:00 AM - 12:30 PM

**When Fishing is Hypothesis Driven:  
The Use of Aquatic Models for Studies of Human Disease  
Platform Session  
*Regency D***

Chairperson: Don G. Ennis, University of Louisiana

- |          |           |   |
|----------|-----------|---|
| 11:00 AM | <b>22</b> | <b>USING <i>FUNDULUS HETEROCLITUS</i> TO STUDY MECHANISMS OF BENZO(A)PYRENE TOXICITY</b><br><u>Willett KL</u> , Wang L, Dong W, Zhu S     |
| 11:15 AM | <b>23</b> | <b>λ TRANSGENIC MEDAKA AS A NEW MODEL FOR GERMLINE MUTAGENESIS</b><br><u>Winn RN</u> , Majeske AJ, Jagoe CH, Norris MW, Glenn TC, Smith M |
| 11:30 AM | <b>24</b> | <b>SCREENING FOR INDUCED POINT MUTATIONS IN MEDAKA WITH TILLING</b><br><u>Todo T</u>  |
| 11:45 AM | <b>25</b> | <b>A 42,000-ANIMAL STUDY TO ASSESS CANCER AND BIOMARKER RESPONSE AT ULTRA-LOW DOSE</b><br>Bailey GS, <u>Tilton SC</u>                     |
| 12:00 PM | <b>26</b> | <b>INVESTIGATING THE ROLE OF RETINOBLASTOMA GENE MUTATIONS IN CHEMICAL CARCINOGENESIS USING FISH</b><br><u>Rotchell JM</u> , Ostrander GK |
| 12:15 PM | <b>27</b> | <b>CELL CYCLE REGULATION IN <i>XIPHOPHORUS</i> HYBRID MELANOMAS</b><br><u>Nairn RS</u> , Trono D, Beard R, Fraijo R, Butler AP            |

## TUESDAY, SEPTEMBER 19, 2006

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11:00 AM – 1:30 PM

**Exhibits  
and  
Poster Session III**  
*Regency ABC*

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Odd numbered posters to be attended from 11:00 AM – 12:15 PM

Even numbered posters to be attended from 12:15 PM – 1:30 PM

Presenting author underlined

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Poster #

- P130 **STUDY OF EFFECTS CHLOROPHYLLIN ON GENOTOXIC AND TETAROGENIC DAMAGE INDUCED BY CHROMIUM (VI)**  
García-Rodríguez MC, Altamirano-Lozano M
- P131 **ISOLIQUIRITIN APOSIIDE FROM *GLYCYRRHIZA GLABRA(L.)* EXHIBITS ANTIGENOTOXIC ACTIVITY AGAINST OXIDATIVE STRESS-INDUCED GENOTOXICITY**  
Kaur P, Kumar N, Singh B, Kumar S, Kaur S
- P132 **GENOTOXICITY OF QUERCETIN IN THE PRESENCE OF REACTIVE OXYGEN SPECIES USING HUMAN LYMPHOBLASTOID TK6 CELLS**  
Matsufuji H, Chino M, Hayashi M, Honma M, Yamagata K
- P133 **GENISTEIN CHEMOPREVENTION OF PROSTATE CANCER IN TRAMP MICE**  
Wang J, Eltoum IE, Lamartiniere CA
- P134 **ANALYSIS OF THE ABILITY OF INDIVIDUAL ISOFLAVONES IN SOYBEAN-PROCESSING BY-PRODUCT MIXTURES TO REDUCE SPONTANEOUS MUTATION IN MISMATCH-REPAIR DEFICIENT CELLS**  
Mure K, Plewa MJ, Takeshita T, Rossman TG, Klein CB
- P135 **COX-2 INHIBITORS INDUCE APOPTOSIS IN COLORECTAL CANCER CELLS *IN VITRO* BY INDUCTION OF POLYPLOIDY**  
Yu RL, Zubrickas KR, Puskorius RL, Samoy JV, Korytko PJ, Mauthe RJ



## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P136 **NUMERICAL AND STRUCTURAL ABNORMALITIES OF CENTROSOMES IN HUMAN ORAL CARCINOGENESIS: DOES IT DRIVE DNA COPY NUMBER CHANGE?**  
Tseng OLI, Poh CF, Zhu Y, Zhang L, Rosin MP
- P137 **HUMAN p53 SOMATIC MICROINDELS IN CANCER**  
Scaringe WA, Li K, Chen L, Gu D, Gonzalez KD, Hill KA, Sommer SS
- P138 **MOM-PAP-A DETECTS ULTRA RARE DELETIONS AND REVEALS THAT NORMAL LUNG CONTAINS THE EGFR MICRODELETIONS COMMONLY FOUND IN LUNG CANCERS**  
Sommer SS, Chen Z, Feng J
- P139 **Withdrawn**
- P140 **Withdrawn**
- P141 **INSIGHTS INTO THE ROLE OF K-RAS MUTATION IN SPORADIC COLON CANCER DEVELOPMENT BASED UPON SYSTEMATIC ACB-PCR MEASUREMENT OF K-RAS MUTANT FRACTION**  
Parsons BL, Marchant KE, Verkler TL, McKinzie PB, Delongchamp RR, Patterson TA, Broadwater JR, Lamps LW, Kim LT
- P142 **GENOME-WIDE TRANSCRIPT-LEVEL RESPONSES FOLLOWING TREATMENT WITH THREE PROMOTERS OF C3H/10T1/2 CELL MORPHOLOGICAL TRANSFORMATION**  
Parfett CL, Zhou G, Pilon R, Douglas GR
- P143 **EGFR SOMATIC MUTATIONS IN LUNG CANCER: OF MICROINDELS, SMOKING AND DRUG RESPONSE**  
Gu D, Scaringe WA, Li K, Saldivar JS, Hill KA, Chen Z, Gonzalez KD, Sommer SS
- P144 **COLON HAS THE SAME CORE MUTATION PATTERN, BUT A HIGH SPONTANEOUS MUTATION FREQUENCY RELATIVE TO SMALL INTESTINE AND OTHER TISSUES IN ADULT TRANSGENIC MICE**  
Wang J, Liu N, Nelson N, Sommer SS

## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P145 **CYTOGENETIC EVALUATION OF POTASSIUM DICHROMATE TOXICITY IN BONE-MARROW CELLS OF SPRAGUE-DAWLEY RATS**  
Patlolla A, Tchounwou P
- P146 **VALIDATION OF AN *IN VITRO* PROTOCOL FOR THE HUMAN PERIPHERAL BLOOD LYMPHOCYTE (HPBL) MICRONUCLEUS (MN) SCREENING ASSAY**  
Erexson GL, Murli H, Trombley JM, Coleman MA, Harris BJ, Hsu B, Montague DC, Farabaugh CS, Stojhovic GP
- P147 **IMPACT OF CADMIUM ON GENETIC INSTABILITY**  
Meynard D, Saintigny Y, Lopez B
- P148 **MRE11/RAD50 PARTICIPATES IN THE AID/UNG INITIATED PATHWAY OF IMMUNOGLOBULIN GENE DIVERSIFICATION BY CLEAVING ABASIC DNA**  
Larson ED, Cummings WJ, Bednarski DW, Maizels N
- P149 **A ROLE FOR SOLUBLE FACTORS IN THE NON-TARGETED EFFECTS OF RADIATION**  
Laiakis EC, Morgan WF
- P150 **SOMATIC MUTAGENESIS *IN VIVO* IN MRE11<sup>ATL1/ATL1</sup> MICE**  
Nguyen SC, Deng L, Petrini JH, Shao C, Liang L, Tischfield JA
- P151 **POLYMERASE ACTIVE-SITE MUTANTS OF DNA POLYMERASE-DELTA INCREASE CANCER INCIDENCE IN MICE**  
Venkatesan RN, Treuting PM, Fuller ED, Ladiges WC, Preston BD, Loeb LA
- P152 **SPONTANEOUS MUTATION LOAD IN MURINE PANCREAS AND SUBMAXILLARY GLAND SHOWS FEATURES COMMON TO SOMATIC TISSUES IN YOUNG TO MIDDLE ADULTHOOD**  
Prtenjaca A, Tarnowski HE, Blissett SL, Creamer L, Heney M, Marr A, Sathiamoorthy S, Hill KA
- P153 **CRITICAL EVALUATION OF UNDERLYING MECHANISMS CONSISTENT WITH KEY OBSERVATIONS OF *IN VIVO* SPONTANEOUS MUTATIONS OVER THE LIFESPAN OF THE MOUSE**  
Hill KA, Scaringe WA, Gonzalez KD, Wang J, Sommer SS

## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P154 **COMPARISON OF THE PERIPHERAL BLOOD MICRO NUCLEUS TEST IN RAT AND MOUSE EXPOSED TO ANEUGENS: INVOLVEMENT OF THE SPLEEN IN THE SELECTIVE REMOVAL OF THE MICRONUCLEATED ERYTHROCYTES**  
Elhajouji A, Cammerer Z, Kirsch-Volders M, Suter W
- P154A **GENOTOXIC ACTIVATION OF N-HYDROXYAMINO-PHENYLNORHARMAN BY HUMAN SULFOTRANSFERASES EXPRESSING IN *SALMONELLA TYPHIMURIUM umu* TESTER STRAINS**  
Oda Y, Totsuka Y, Wakabayashi K (Abstract in *EMM* as P19.)
- P155 **EFFECT OF p53 GENOTYPE ON MGMT EXPRESSION AND O<sup>6</sup>-ETHYLDEOXYGUANOSINE LEVELS IN THE LIVERS OF ENU-EXPOSED TSGP53<sup>®</sup> MICE**  
Morris SM, Akerman GS, Melchior Jr WB, Tolleson WH, Churchwell MI, Lin CJ, Doerge DR, Beland FA, Chen JJ
- P156 **A PERSISTENT THIOL-INDUCED *MnSOD*-MEDIATED DELAYED CYTOPROTECTIVE EFFECT IN HUMAN MICROVASCULAR ENDOTHELIAL CELLS (HMEC)**  
Murley JS, Nantajit D, Giometti C, Diamond A, Kataoka Y, Grdina DJ
- P157 **LYSINE63 POLY-UBIQUITINATION PROTECTS AGAINST ENDOGENOUS MUTATIONS**  
Ramaekers C, Vreuls C, Lambin P, Wouters BG, Chiu RK
- P158 **DNA LIGASE INTERACTS WITH THE CELL CYCLE CHECKPOINT CLAMP LOADER RAD17-RFC IN RESPONSE TO DNA DAMAGE AND REPLICATION BLOCKAGE**  
Song W, Levin DS, Varkey J, Bermudez VP, Hurwitz J, Tomkinson AE
- P159 **CELL CYCLE REGULATION AND ACTIVITY OF MISMATCH REPAIR PROTEINS**  
Edelbrock MA, Richards TJ, Williams KJ
- P160 **CHARACTERIZATION OF POST-TRANSLATIONAL PHOSPHORYLATION OF hMSH6**  
Kaliyaperumal S, Schroering A, Williams K

## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P161 **CELLULAR RESPONSES TO 3-METHYLADENINE DNA LESIONS**  
Shah D, Marinov G, Meira L, Samson L
- P162 **Dnl4/Lif1 STABILIZES THE BINDING OF Hdf1/Hdf2 TO DNA DOUBLE STRAND BREAKS AND IS CRITICAL FOR THE SUBSEQUENT RECRUITMENT OF Rad50/Mre11/Xrx2**  
Hefferin ML, Chen L, Tseng HM, Lee SE, Tomkinson AE
- P163 **DNA DOUBLE-STRAND BREAK REPAIR IN MOUSE EMBRYONIC STEM CELLS**  
Tichy ED, Deng L, Liang L, Zhao X, Nguyen S, Shao C, Tischfield JA, Stambrook PJ
- P164 **GENETIC VARIANTS IN NUCLEOTIDE-EXCISION REPAIR CORE GENES AND RISK OF LUNG CANCER IN CHINA: A CASE-CONTROL ANALYSIS**  
Shen H, Xu L, Shao M, Hu Z, Wang F, Wang Y, Yuan W, Qian J, Ma H, Wang Y, Liu H, Chen W, Yang L, Jing G, Huo X, Jin L, Wei Q, Wu T, Huang W, Lu D
- P165 **ASSOCIATION STUDY OF POLYMORPHISMS OF THE DNA REPAIR GENE ERCC4 AND SUSCEPTIBILITY OF PRIMARY LUNG CANCER IN CHINESE UNDER ENVIRONMENTAL EXPOSURE**  
Qian J
- P166 **THE TRANSCRIPTION STRESS RESPONSE**  
Derheimer F, Ljungman M
- P167 **EPIGENETIC VARIATION INDUCED IN TRITICUMAESTIVUM L. BY NATURAL NICOTINIC ACID**  
Bogdanova ED, Makhmudova KKh, Levites EV
- P168 **GLOBAL DNA METHYLATION AND GENE EXPRESSION CHANGES IN B6C3F1 MOUSE LIVER AFTER FIBRATE TREATMENT OR CHOLINE/METHIONINE DEFICIENT DIET ADMINISTRATION**  
Ni HN, Brown RB, Casey WMC, Ambroso JLA, Yoon LWY, Waitt GMW, Williams JDW, Cariello NFC

## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P169 **MOLECULAR MECHANISMS OF RADIATION-INDUCED BYSTANDER EFFECT *IN VIVO* IN SPLEEN**  
Loree JM, Koturbash I, Kutanzi K, Rodriguez-Juarez R, Kovalchuk O
- P170 **TRANSGENERATIONAL HEALTH/HEREDITARY EFFECTS OF VIRAL PANDEMICS IN THE EPIGENETIC PERSPECTIVE: CONCEPTUAL DESIGN**  
Golubovsky MD, Manton KG
- P171 **MODULATION OF GENE METHYLATION BY GENISTEIN OR LYCOPENE IN BREAST CELLS**  
Leszczynska J, King AA, Klein CB
- P172 **THE GENOTOXIC AND EPIGENETIC PROFILE OF ARSENITE AND METHYLATED METABOLITES IN MAMMALIAN CELLS**  
Leszczynska J, Hickey C, Rossman T, Klein CB
- P173 **A COMBINED <sup>32</sup>P-POSTLABELING ASSAY FOR DETECTION OF DNA ADDUCTS: SINGLE LABELING AND SEPARATION OF NUCLEASE P1- AND BUTANOL-ENRICHED ADDUCTS REDUCE THE ASSAY CYCLE TIME BY HALF**  
Reddy MV, Storer RD, Galloway SM, Laws GM
- P174 **FURTHER DEVELOPMENT OF A YEAST GENOTOXICITY ASSAY TO IMPROVE THE SPECTRUM OF COMPOUND DETECTION**  
Whitworth T, Scott A, Walmsley RM
- P175 ***IN VITRO* ERYTHROPOIESIS FROM LIN- BONE MARROW FOR GENOTOXICITY TESTING**  
Shuga J, Zhang J, Samson L, Lodish H, Griffith L
- P176 **ISOLATION AND BIOCHEMICAL CHARACTERIZATION OF UBIQUITIN K63 TARGETS IN MAMMALIAN CELLS IN RESPONSE TO CELLULAR STRESS**  
Chiu RK, Vreuls C, Weng L, Ramaekers C, Lambin P, Wouters BG

## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P177 **AN *IN SILICO* PREDICTIVE SYSTEM FOR EVALUATING INDUCED LIVER TOXICITY IN RATS AND EXTRAPOLATION TO HUMAN LIVER TOXICITY**  
Wassom JS, Malling HV, Sega GA, Sankaranarayanan K, Brothers RA, Parang M, Lu PY, Sumpter BG, Piotrowski PL, Martin SA, Martin KA, Goldberg JL, Edmonds AM
- P178 **PREDICTING IDIOSYNCRATIC TOXICITY RESPONSES OF RAT LIVERS TO XENOBIOTICS**  
Malling HV, Wassom JS, Sega GA, Sankaranarayanan K, Lu PY
- P179 **TOTAL ARSENIC CONCENTRATIONS IN NATIVE FRESHWATER CRAYFISH FROM GOLD MINING REGIONS OF AUSTRALIA**  
Williams G, Snow E
- P180 **ASSOCIATION OF ARSENIC EXPOSURE WITH DEFENSIN LEVELS IN THE URINARY PROTEOME**  
Hegedus CM, Skibola CF, Warner M, Skibola D, Pfeiffer R, Clark M, Steinmaus C, Smith AH, Smith MT, Moore LE
- P181 **Withdrawn**
- P182 **GENOTOXIC EFFECT OF LIOPHILIZED EXTRACT OF *ASPERGILLUS FUMIGATUS* EN-318 ON HUMAN FIBROBLAST CELLS**  
Narvaez DM, Groot H, Sicard D, Cepero MC
- P183 **ACUTE CYTOTOXICITY IN MAMMAL CELLS EXPOSED *IN VITRO* TO A GLYPHOSATE-BASED FORMULATION**  
Ortiz S, Groot H, Narvaez DM
- P184 **USE OF HUMAN S9 FOR *IN VITRO* GENOTOXICITY TESTING**  
Proudlock R, Fournier A, Thompson C, Registre M
- P185 **SURVIVAL AND FERTILITY INDEX AS BIOMARKERS OF GENOTOXIC ACTIVITY IN *DROSOPHILA MELANOGASTER***  
Muñoz-Hernandez A, Ramos-Morales P

## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P186 **P53 PROTEIN LEVEL AS AN INDICATOR OF GENOTOXICITY FOR ANEUGENIC AND CLASTOGENIC AGENTS**  
Camacho H, Roy SK, Eastmond DA
- P187 **GENOMIC IMBALANCES AND MICRONUCLEI FREQUENCY IN BLOOD SAMPLES SUBMITTED TO CELL PHONE (NON-IONIZING) RADIATION**  
Heinrich JKR, Campanhol CL, Rodrigues RM, Peres B, Almeida AM
- P188 **THE ADAPTIVE RESPONSE TO IONISING RADIATION IN THE LOW DOSE RADIATION-EXPOSED WORKERS**  
Park MY, Lee HJ, Park HJ, Kwon HK, Ji YH, Lee SJ, Kang CM
- P189 **ASSESSMENT OF DNA DAMAGE IN COTTON FIELD FEMALE WORKERS EXPOSED TO PESTICIDES BY COMET ASSAY**  
Ali T, Khan QM, Bhalli JA
- P190 **OCCUPATIONAL EXPOSURE TO ORGANIC SOLVENTS IN DIFFERENT INDUSTRIES IN COLOMBIA**  
Groot H, Varona ME, Torres C, Patiño RI
- P191 **CORRELATED CHEMICALS WITH INCREASED OXIDATIVE STRESS IN NEW HOUSE ENVIRONMENT**  
Oh E, Kim Y, Hong E, Lee J, Kim YW, Moon KW, Lee E
- P192 **MOLECULAR BIOMARKERS FOR MONITORING WORKERS IN A PETROLEUM REFINING FACTORY**  
Kim YJ, Choi JY, Woo HD, Cho YH, Kang SJ, Chung HW
- P193 **IMAGING AND SEMIQUANTITATION OF POLYCYCLIC AROMATIC HYDROCARBON (PAH)-DNA ADDUCTS IN HUMAN REPRODUCTIVE TISSUES**  
Pratt MM, Sirajuddin P, Castle PE, Phillips DH, Afework S, MacLean AB, Ragavan N, Martin FL, Olivero OA, Poirier MC
- P194 **CANCER CONSEQUENCES FOR BULGARIAN POPULATION OF THE CHERNOBYL ACCIDENT: 20 YEARS AFTER**  
Paskalev ZD, Apostolova DB

## TUESDAY, SEPTEMBER 19, 2006

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Poster #

- P195 **SKIN CANCER RISK CORRELATION WITH INCIDENT ULTRAVIOLET RADIATION IN THE DISTRITO FEDERAL - BRAZIL**  
José Q, Clarisse S, Baptista G, Castro F, Zara L
- P196 **ENVIRONMENTAL TRACE ELEMENTS ASSOCIATED WITH THE CANCER RISK – LUCRECIA-RN/BRAZIL**  
Serra C, Leal S, Baptista G, Castro C, Zara L
- P197 **USE OF HEMATOLOGICAL, BIOCHEMICAL AND GENETIC BIOMARKERS TO MONITOR PAKISTANI AGRICULTURE WORKERS EXPOSED TO PESTICIDES; A FOLLOW-UP STUDY**  
Bhalli JA, Khan QM
- P198 **EVIDENCE OF HIGH REPRODUCIBILITY IN THE SYRIAN HAMSTER EMBRYO (SHE) CELL TRANSFORMATION ASSAY: COMPOUND TESTED IN TWO LABORATORIES OVER A SPAN OF ALMOST A DECADE**  
Pant K, Sly JE, Bruce SW, Leung SKC, San RHC
-



**TUESDAY, SEPTEMBER 19, 2006**

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1:30 PM - 7:00 PM

**Free Afternoon**

Van Dusen Garden Tour  
and Vancouver Aquarium Tour

Ticket Required

Meet outside Melville Street entrance

1:50 PM

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7:00 PM - 1:00 AM

**Banquet and EMS Awards**

*Regency CD*

**Guest Lectures**

Barry W. Glickman, University of Victoria

Amanda Glickman, University of Victoria

**Darwin Backwards**

**WEDNESDAY, SEPTEMBER 20, 2006**

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7:00 AM - 2:00 PM

**Registration**  
*Regency Foyer*

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7:00 AM - 8:30 AM

**BREAKFAST MEETINGS**

**2007 Program Committee (Second Meeting)**

*Balmoral*

**Education and Student Affairs Committee**

*Prince of Wales*

**Hollaender Committee**

*Oxford*

**Genomics/New Technology Special Interest Group**

*Regency A*

Chairpersons: Ronald D. Snyder, Schering-Plough Research Institute and  
Martyn T. Smith, University of California - Berkeley

*Primary Sponsor: Applied Biosystems*

Major business will be to determine if the genomics and new technologies special interest groups should merge, how to enhance the utility of these two SIGs (ie, what would the participants like to see in terms of activities, support for society issues, directions, etc.) Dr. Frank Chen from Berkeley will talk on using a nano-bio hybrid for functional proteomics and genomic assays. These assays display sensitivities at the single cell level. Dr. Ron Snyder will also discuss the use of microarrays/RT-PCR in gene-tox testing.

## WEDNESDAY, SEPTEMBER 20, 2006

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8:30 AM - 11:20 AM

### **New Animal Systems for Study of Genetic and Environmentally Induced Disease Symposium**

*Regency E*

Chairpersons: Barbara S. Shane, National Institutes of  
Environmental Health Sciences and William Baird, Oregon State  
University

- 8:30 AM      **S50**    **Bulky DNA-Adduct Repair Enzymes in the  
Early Development of Zebrafish**  
*Speaker: William Baird, Oregon State University*
- 9:00 AM      **S51**    **The Utility of Rat Mammary Models to  
Identify Unique Human Breast Cancer  
Risk-Modifier Genetic Elements**  
*Speaker: Michael N. Gould, University of  
Wisconsin, Madison*
- 9:30 AM      **S52**    **Pathological Aggression in “Fierce” Mice  
Corrected by Human Nuclear Receptor 2E1**  
*Speaker: Elizabeth M. Simpson, University of  
British Columbia*
- 10:00 AM      BREAK
- 10:20 AM      **S53**    **Visualization of Fluorescently-Tagged  
Recombinant Cells *In Situ* Reveals the Effects  
of Aging**  
*Speaker: Bevin P. Engelward, Massachusetts  
Institute of Technology*
- 10:50 AM      **S54**    **The Collaborative Cross: A Reference Mouse  
Population for Studying Gene-Environment  
Interactions**  
*Speaker: David W. Threadgill, University of  
North Carolina*

## WEDNESDAY, SEPTEMBER 20, 2006

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8:30 AM - 11:20 AM

### Non-Homologous End Joining Symposium

*Regency F*

Chairpersons: Thomas A. Kunkel, National Institute of Environmental Health Sciences and Thomas E. Wilson, University of Michigan Medical School

- 8:30 AM            **Introduction to NHEJ**  
*Speaker: Thomas E. Wilson*  
*University of Michigan Medical School*
- 8:45 AM            **S55 Recognition of DNA Ends By The Mre11 Complex: Implications for Double-Stranded Break Repair**  
*Speaker: James P. Carney, University of Maryland School of Medicine*
- 9:00 AM            **S56 Searching for Substrates for the DNA-Dependent Protein Kinase**  
*Speaker: Susan P. Lees-Miller, University of Calgary*
- 9:30 AM            **S57 Balancing Accuracy and Diversity During V(D)J Recombination**  
*Speaker: Dale A. Ramsden, University of North Carolina*
- 10:00 AM            BREAK
- 10:20 AM            **S58 Structure-Function Studies of DNA Polymerases Involved in NHEJ**  
*Speaker: Miguel Garcia-Diaz, National Institute of Environmental Health Sciences*
- 10:50 AM            **S59 Insights into the Molecular Mechanisms of End Joining from Bacteria and Yeast**  
*Speaker: Alan E. Tomkinson, University of Maryland*

**WEDNESDAY, SEPTEMBER 20, 2006**

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11:30 AM - 12:30 PM

**Plenary Lecture**

Graham C. Walker  
Massachusetts Institute of Technology

**Contacts and Control:  
Managing the Functions of  
Trans-Lesion DNA Polymerases**

*Regency E*

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12:30 PM - 1:30 PM

**Networking/Interaction Time**  
(Lunch on Own)

## WEDNESDAY, SEPTEMBER 20, 2006

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1:30 PM - 4:25 PM

### Recent Insights into Molecular Mechanisms of DNA Repair and Recombination Platform Session *Regency E*

Chairpersons: Larry Thompson, Lawrence Livermore National  
Laboratory and Gerry Adair, University of Texas, MD Anderson  
Cancer Center

- |         |           |  |
|---------|-----------|--|
| 1:30 PM |           | <b>Introduction</b><br>Larry Thompson, Lawrence Livermore National<br>Laboratory   |
| 1:40 PM | <b>28</b> | <b>GENOTOXICITY AND AGE-RELATED<br/>DIFFERENCES IN NUCLEOTIDE<br/>EXCISION REPAIR FOLLOWING UVC<br/>EXPOSURE IN CAENORHABDITIS<br/>ELEGANS</b><br><u>Meyer JN</u> , Boyd WA, Haugen AC,<br>Freedman JH, Van Houten B   |
| 1:55 PM | <b>29</b> | <b>A ROLE FOR p63 IN REGULATING<br/>NUCLEOTIDE EXCISION REPAIR IN<br/>HUMAN KERATINOCYTES</b><br>Ferguson BE, Li H, <u>Oh DH</u>   |
| 2:10 PM | <b>30</b> | <b>EcoRI TARGETED TO MITOCHONDRIA<br/>RESULTS IN MITOCHONDRIAL DNA<br/>DEPLETION AND DECREASED<br/>MITOCHONDRIAL FUNCTION</b><br><u>Walter CA</u> , Grass E, Lechleiter J, Wu J, Bai Y,<br>Park JS, Van Houten B, McMahan CA,<br>Herbert DC, Hunter S, Reddick R |
| 2:25 PM | <b>31</b> | <b>TRANSGENERATIONAL EFFECT OF<br/>SALT STRESS ON PLANT GENOME<br/>STABILITY</b><br>Boyko A, <u>Kovalchuk I</u>  |

**WEDNESDAY, SEPTEMBER 20, 2006**

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- 2:40 PM      **32**      **FUNCTIONAL ANALYSIS OF HELICASE AND THREE TANDEM HRDC DOMAINS OF RECQ IN *DEINOCOCCUS RADIODURANS***  
Hua Y-J, Huang L-F, Hua X-T, Lu H-M, Gao G-J, Tian B
- 2:55 PM      BREAK
- 3:10 PM      **33**      **EFFECTS OF MSH3 GENE DELETION ON TARGETED HOMOLOGOUS RECOMBINATION IN *ERCCI* WILD-TYPE OR *ERCCI* KNOCK-OUT CELLS**  
Adair GM, Rowley B, Lowery M, Della-Coletta L, Bolt A, Nairn RS
- 3:25 PM      **34**      **DISPARATE *hprt* MUTAGENESIS ASSOCIATED WITH DEFECTIVE FANCONI ANEMIA AND HOMOLOGOUS RECOMBINATION PATHWAYS**  
Thompson LH, Hinz JM, Nham PB
- 3:40 PM      **35**      **REPRESSION OF *RAD51* GENE EXPRESSION BY E2F4/p130 COMPLEXES IN HYPOXIA**  
Bindra RS, Glazer PM
- 3:55 PM      **36**      ***RAD51AP1/PIR51* IS REQUIRED FOR DNA REPAIR AND FOR THE MAINTENANCE OF GENOMIC STABILITY AFTER DNA DAMAGE**  
Wiese C, Grosser T, Kovalenko O, Collins D, Kratz K, Rydberg B, Schild D
- 4:10 PM      **37**      **A DOUBLE-HOLLIDAY JUNCTION DISSOLVASOME COMPRISING BLM, TOPOISOMERASE IIIALPHA, AND BLAP75**  
Bussen WL, Raynard SJ, Sung P

## WEDNESDAY, SEPTEMBER 20, 2006

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1:30 PM - 4:25 PM

### **The Role of Dietary Supplements and Food in Human Health Platform Session**

*Regency F*

Chairperson: Lynnette Ferguson, University of Auckland Medical School, New Zealand

*Contributing Sponsor: Office of Dietary Supplements,  
National Institutes of Health*

- 1:30 PM                    **Introduction**  
Lynnette R. Ferguson, University of Auckland Medical School
- 1:40 PM            **39    INHIBITION OF FRIED MEAT-INDUCED DNA DAMAGE: USE OF CRUCIFEROUS VEGETABLES, YOGURT, AND CHLOROPHYLLIN IN A DIETARY INTERVENTION STUDY IN HUMANS**  
Shaughnessy DT, Gangarosa L, Schliebe B, DeMarini DM, Xu Z, Umbach DM, Sandler RS, Taylor JA
- 2:10 PM            **38    POLYMORPHISMS OF *GPX1* AND CATALASE GENES, SUSCEPTIBILITY TO PROSTATE CANCER AND RESPONSE TO SELENIUM SUPPLEMENTATION**  
Karunasinghe N, Ferguson LR, Masters J, Ko Y-J, Tuckey J
- 2:40 PM            **40    SELENIUM, DNA DAMAGE, AND APOPTOSIS: DEFINING THE OPTIMAL SELENIUM DOSE FOR PROSTATE CANCER PREVENTION**  
Shen S, Kengeri SS, Xu HP, Schlittler DL, Chiang EC, Chen Y, Oteham C, Cooley DM, Bostwick DG, Glickman LT, Combs Jr GF, Waters DJ



## WEDNESDAY, SEPTEMBER 20, 2006

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- 2:55 PM                      BREAK
- 3:10 PM                      **41      PROSTATE CANCER  
CHEMOPREVENTION USING DIETARY  
POLYPHENOL RESVERATROL**  
Harper CE, Patel BB, Wang J, Lamartiniere CA
- 3:25 PM                      **42      STUDIES ON THE ANTI-TUMOR  
ACTIVITIES OF *GANODERMA LUCIDUM*  
(LINGZHI): A COMPARISON WITH TWO  
ALLIED SPECIES AND THE DIFFERENT  
PARTS OF THEIR FRUITING BODIES**  
Yue GGL, Lau CBS, Fung K-P, Leung P-C
- 3:40 PM                      **43      VITAMIN C INTAKE MODIFIES THE  
EFFECTS OF AGING ON DNA STRAND  
DAMAGE IN SPERM**  
Schmid TE, Eskenazi B, Marchetti F, Young S,  
Weldon RH, Baumgartner A, Anderson D,  
Wyrobek AJ
- 3:55 PM                      **44      DNA DAMAGE, SENSITIZATION TO  
IONIZING RADIATION, AND  
INHIBITION OF DEACETYLASE  
ACTIVITY BY CURCUMIN**  
Banath JP, Yu Y, MacPhail SH, Olive PL
- 4:10 PM                      **45      PREVENTION OF SPONTANEOUS AND  
X-RAY INDUCED GENOMIC  
INSTABILITY IN BREAST CANCER  
CELLS BY THE DIETARY  
ANTIMUTAGENS GENISTEIN AND  
LYCOPENE**  
King AA, Leszczynska J, Hickey CA, Klein CB

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4:30 PM - 6:30 PM  
**EMS Council Meeting**  
*Balmoral*

## EMS EXHIBITORS 2006

### EXHIBIT HOURS (Attended)

Sunday	September 17, 2006	4:50 PM – 7:30 PM
Monday	September 18, 2006	4:50 PM – 7:30 PM
Tuesday	September 19, 2006	11:00 AM – 1:30 PM

#### **Agilent Technologies**

**Booth 15**

2850 Centreville Road, Wilmington, DE 19808, United States  
Phone: (800) 227-9770  
Fax: (302) 633-8916  
E-mail: elaine\_baccino@agilent.com  
Web Site: www.agilent.com/chem

Agilent Technologies is a leading supplier of life science technologies, providing solutions for genomics, proteomics and informatics that optimize performance and workflow productivity. Key products include: Expression, CGH, Location Analysis DNA microarrays, scanners, HPLC, QTOF, QQQ, LC/MS/MS and HPLC-Chip/MS; ion trap and TOF mass spectrometers, lab-on-a-chip products, reagents and data analysis software.

#### **BioReliance, Invitrogen bioservices**

**Booth 3**

14920 Broschart Road, Rockville, MD 20850, United States  
Phone: (301) 738-1000  
Fax: (301) 610-2590  
E-mail: kelton.chapman@invitrogen.com  
Web Site: www.invitrogen.com

BioReliance, Invitrogen bioservices, is a contract services organization (CSO) providing regulatory-compliant biological testing services to a variety of pharmaceutical, biopharmaceutical, medical device, and chemical companies worldwide. BioReliance offers complete genetic toxicology services in a number of well-characterized test systems. Our expertise also includes mammalian and molecular toxicology, formulation development, stability testing and diagnostic services for laboratory animals.

#### **Cantox Health Sciences International**

**Booth 9**

2233 Argentina Road, Suite 303  
Mississauga, ON L5N 2X7, CANADA  
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Fax: (905) 542-1011  
E-mail: enestmann@cantox.com  
Web Site: www.cantox.com

CANTOX is an internationally recognized scientific consulting firm, specializing in human health, toxicology and regulatory affairs. With offices in Canada, the U.S., and Europe, CANTOX has provided companies and trade associations with unparalleled service worldwide for over 20 years. Our expertise focuses on assisting clients in business areas of food and nutrition, pharmaceuticals and healthcare, agriculture, biotechnology and consumer products, and industrial chemicals.

**Covance, Inc.**

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Web Site: [www.covance.com](http://www.covance.com)

**Booth 1**

Covance provides genetic and molecular toxicology testing services supporting the discovery, development and registration of pharmaceutical, food, medical device, agrochemical, and industry products. As the world's largest provider of genetic and molecular toxicology services, Covance offers a wide range of standard screening and regulatory studies, as well as customized programs and regulatory consultancy.

**FASEB**

9650 Rockville Pike, Bethesda MD 20814-3998, United States

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E-mail: [jroberts@FASEB.org](mailto:jroberts@FASEB.org)

Web site: [www.faseb.org](http://www.faseb.org)

**Booth 2**

FASEB Career Resources and MARC Program provide a variety of training programs and activities to support diversity in the biomedical and behavioral sciences. Our resources include: career coaching/mentoring activities, travel award programs for scientific meetings, research conferences, and student summer research experiences. We also sponsor Career Development Programs including grantsmanship training seminars.

**Helix3 Inc.**

100 Southcenter Ct., Ste 900, Morrisville, NC, 27560, United States

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Email: [info@helix3inc.com](mailto:info@helix3inc.com)

Web Site: [www.helix3inc.com](http://www.helix3inc.com)

**Booth 14**

Helix3 is a GLP contract research organization specializing in both *in vitro* and *in vivo* comet assay and genetic toxicology applications, assay development, and research services performed according to FDA, EPA, and OECD GLP guidelines. The Helix3 staff is the most experienced team in the world having regularly performed *in vivo*, *in vitro*, and acellular comet assay and research studies for regulatory submissions. Responsible for assisting in the development of Kinetic Imaging's KometGLP<sup>®</sup>, the world's first Comet assay image analysis system, the Helix3 staff is also responsible for validating Kinetic Imaging's KometGLP<sup>®</sup>, the world's first Comet assay image analysis system validated according to FDA 21 CFR Part 11 requirements for electronic data capture. Combined with their extensive background in bio-imaging, computer validation, and quality assurance, the Helix3 team stands out as the leader in GLP contract research and comet assay services.

**Huntingdon Life Sciences****Booth 8**

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Web Site: www.huntingdon.com

Huntingdon Life Sciences provides a comprehensive range of preclinical safety testing for the Pharmaceutical, Agrochemical, Industrial Chemical and other industries. With testing facilities in the USA and UK, 1400 staff worldwide and half a century of experience, our expertise in safety testing is unrivalled. For the last 25 years, HLS has played an integral role in shaping worldwide Genetic Toxicology regulations through its participation in international inter-laboratory validation trials and with its lead scientists on important advisory committees. In addition to our complete regulatory packages, we offer screening assays, mechanistic investigations, and a range of other *in vitro* and *in vivo* assays.

**Integrated Laboratory Systems, Inc. (ILS)****Booth 10**

PO Box 13501, Research Triangle Park, NC, 27709, United States

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E-mail: dmcintyre@ils-inc.com

Web site: www.ils-inc.com

ILS is a leading contract research organization that provides a comprehensive portfolio of research and testing services to our federal and commercial clients. Our GLP-compliant services include general toxicology, genetic toxicology, pharmacokinetics, molecular biology, histopathology and clinical research support. Our scientists have broad experience with animal models and *in vitro* systems.

**Loats Associates, Inc.****Booth 7**

201 East Main Street, Westminster, MD, 21157, United States

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Web Site: www.loats.com

Loats Associates, Inc. designs and produces systems for automated biomedical and scientific analysis. Products include automation of regulatory required cytogenetic assays, automated high resolution colony counting, analysis of the COMET assay, 3D medical imaging and advanced image analysis for autoradiography and *in situ* hybridization techniques.

**MetaSystems Group, Inc.****Booth 12**

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MetaSystems provides innovative genetic imaging and slide scanning systems for automation in the Life Sciences. MetaCyte for automated FISH and IHC analysis and Spot Counting. RCDetect for rare cell detection, Isis for FISH imaging, with software upgrades including CGH and mFISH analysis and Ikaros for automatic karyotyping plus patient database.

**Midwest Bioresearch****Booth 5**

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Midwest BioResearch, LLC (MBR) was founded by former scientists, managers and directors from major pharmaceutical companies to provide outsourced drug disposition and toxicology services. Specifically, the company uses a client-centered approach in providing bioanalysis, structure identification, genetic toxicology and consulting services to biotechnology and pharmaceutical companies. MBR's facilities are GLP compliant and are located in Evanston, Illinois.

**Moltox****Booth 6**

PO Box 1189, Boone, NC 28607, United States

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Moltox, providing pharmaceutical companies, research organizations, academic institutions and testing laboratories for nearly 20 years. Moltox, specializing in the manufacture of the highest quality products for *in vitro* and genetic toxicology, offers a wide variety of products including: prepared plates, bottles and tubes, custom media, metabolic activation products, reagents and solutions.

**Perceptive Instruments Ltd****Booth 11**

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Web Site: www.perceptive.co.uk

Perceptive Instruments develops and markets products for use in genetic toxicology laboratories. These include automatic colony counting systems for the Ames Test and Mouse Lymphoma Assay, and image analysis systems for Unscheduled DNA synthesis and the Comet Assay. We also have the Ames Study Manager and MLA Study Manager which are comprehensive programs for conducting and reporting regulatory Ames tests and mouse lymphoma assays. All our systems are designed for compliance with Good Laboratory Practice and with the FDA 21 CFR Part 11 Final Rule on Electronic Records and Electronic Signatures.

**Trevigen, Inc.****Booth 13**

8405 Helgerman Court, Gaithersburg, MD , 20877, United States  
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Web Site: www.trevigen.com

Trevigen supplies kits and reagents for investigating apoptosis, DNA damage and repair, PARP/PARG, and oxidative stress.

**Xenometrix by Endotell GmbH****Booth 4**

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Web site: www.xenometrix.ch

Xenometrix produces and distributes mutagenicity assay kits, such as the Ames II or the Ames MPF<sup>®</sup> 98/100 kit and a complete range of cytotoxicity test kits, like XTT, MTT, LDHe, SRB, NR, CVDE for the screening of compounds in chemical, cosmetic or pharmaceutical industry and in environmental projects.

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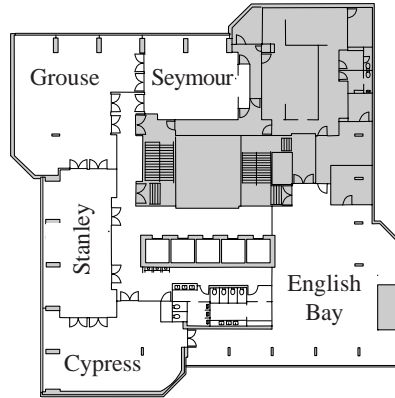
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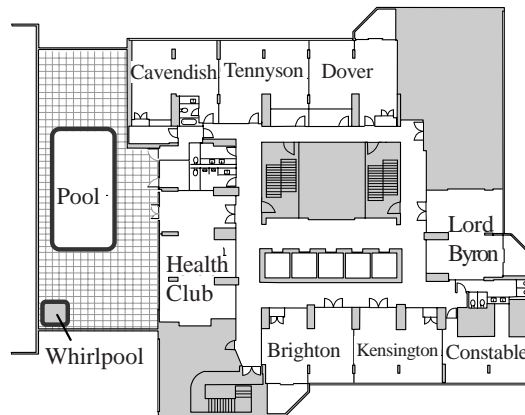
**Hotel Floor Plans**

34th Floor



Stanley

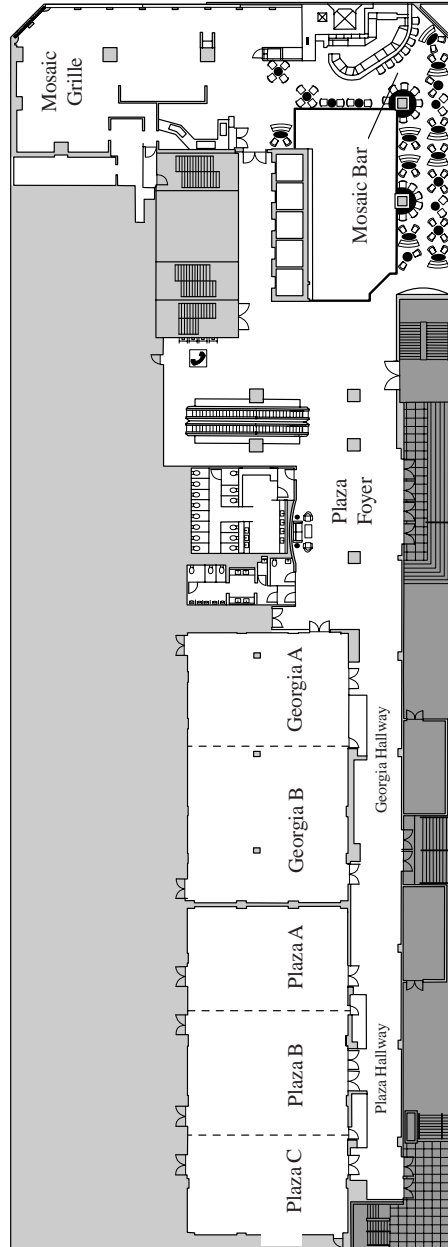
4th Floor



Brighton

# Hotel Floor Plans

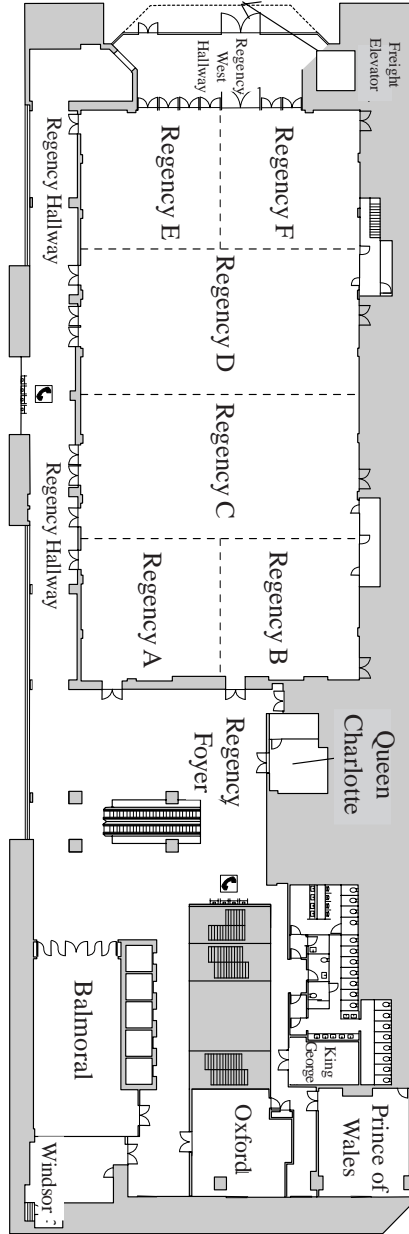
## 3rd Floor



Plaza and Georgia

# Hotel Floor Plans

## 2nd Floor



Regency, Oxford, Prince of Wales, Balmoral