



## ENVIRONMENTAL MUTAGEN SOCIETY

### Thirty-Fifth Annual Meeting

## **Genes, Mutations and Disease: *The Environmental Connection***

**Pittsburgh Hilton Towers, Pittsburgh, PA  
October 2-6, 2004**

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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**2004 ANNUAL MEETING**

Chair: Leona D. Samson	Mats Ljungman
C. Sid Aaron	Lawrence A. Loeb
Priscilla K. Cooper	Toby G. Rossman
David DeMarini	Robert H. Schiestl
Rosalie K. Elespuru	Barbara S. Shane
Lynnette R. Ferguson	Peter J. Stambrook
Shelia M. Galloway	Joann B. Sweasy
Philip C. Hanawalt	Larry H. Thompson
Thomas A. Kunkel	Richard D. Wood
Susan P. LeDoux	

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## **SPONSORS of the 35th ANNUAL MEETING**

### **PLATINUM**

National Center on Toxicogenomics  
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GlaxoSmithKline  
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### **BRONZE**

Boehringer Ingelheim Pharmaceuticals, Inc.  
FDA, Center for Drug Evaluation and Research

## **EVENTS BEING SPONSORED**

### **Saturday, October 2**

Forum  
FDA, Center for Drug Evaluation and Research  
Student Poster Session and Welcoming Reception  
Genetic Toxicology Association and Pfizer Global Research and Development

### **Monday, October 4**

Risk Assessment Breakfast  
Boehringer Ingelheim Pharmaceuticals, Inc.

Morning and Afternoon Breaks  
BioReliance



## EMS 2004 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

Chair: Leona D. Samson  
C. Sid Aaron  
Priscilla K. Cooper  
David DeMarini  
Rosalie K. Elespuru  
Lynnette R. Ferguson  
Shelia M. Galloway  
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Barbara S. Shane  
Peter J. Stambrook  
Joann B. Sweasy  
Larry H. Thompson  
Richard D. Wood

### Symposia and Platform Chairs

Aisar Atrakchi  
Marianne Berrwick  
Priscilla K. Cooper  
James F. Crow  
David DeMarini  
Kathleen Dixon  
Paul Doetsch  
Rosalie K. Elespuru  
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Jim Lee

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### Other Key Individuals

John G. DeLuca  
Barry N. Ford  
Kay Walsh  
Suzanne Wright



## EXHIBIT HOURS

Sunday	October 3, 2004	5:30 PM – 7:30 PM
Monday	October 4, 2004	5:30 PM – 7:30 PM
Tuesday	October 5, 2004	9:30 AM – 12:30 PM

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## POSTER SET-UP AND TAKE-DOWN SCHEDULE

Assigned poster number to match numbers on poster boards

Session	Set-up	Take-down
Sunday	by 3:00 PM	at 7:30 PM
Monday	by 2:00 PM	at 7:30 PM
Tuesday	by 8:00 AM	at 12:30 PM

Poster presenters not attending another session during afternoon are encouraged to attend their posters. All Poster presenters should attend their posters during the late afternoon or morning poster sessions.

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## FUTURE MEETINGS

September 3-8, 2005  
Hyatt Regency San Francisco  
San Francisco, California

September 16-22, 2006  
Hyatt Regency Vancouver  
Vancouver, British Columbia



**SATURDAY, OCTOBER 2, 2004**

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7:30 AM – 9:30 AM

**Executive Board Meeting**  
*Duquesne Room*

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9:30 AM – 12:30 PM

**EMS Council Meeting**  
*Benedum Room*

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11:30 AM - 6:00 PM

**Registration**  
*Ballroom Foyer*





**SATURDAY, OCTOBER 2, 2004**

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1:30 PM – 4:40 PM

**FORUM**

**The SHE Cell Transformation Assay Is Back!  
Should It Be?**

*Ballroom 3*

Organizer: Aisar Atrakchi, U.S. FDA

*Sponsor: FDA, Center for Drug Evaluation and Research*

- |                   |  |
|-------------------|--|
| 1:30 PM – 1:35 PM | Introduction<br><i>Aisar Atrakchi, U.S. FDA</i>  |
| 1:35 PM – 2:10 PM | SHE: A Cell Transformation Assay,<br>Historical Perspectives, Techniques and<br>Application<br><i>James Klaunig, Indiana University School<br/>of Medicine</i> |
| 2:10 PM – 2:45 PM | Performance of this <i>In Vitro</i> Model for<br>Predicting Rodent Carcinogenicity<br><i>Brian Myhr, Covance Laboratories</i>                                  |
| 2:45 PM – 3:00 PM | Break  |
| 3:00 PM – 3:35 PM | Pharmaceutical Development and the SHE<br>Cell Transformation Assay<br><i>James S. Harvey, GlaxoSmithKline</i>   |
| 3:35 PM – 4:10 PM | The Role of the SHE Cell Transformation<br>Assay in Drug Development<br><i>David Jacobson-Kram, U.S. FDA</i>   |
| 4:10 PM – 4:40 PM | Panel Discussion and Open Forum  |



**SATURDAY, OCTOBER 2, 2004**

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5:00 PM – 8:00 PM

**Student Poster Session  
and  
Welcoming Reception**

*Kings Garden*

*Sponsors:  
Genetic Toxicology Association  
and  
Pfizer Global Research and Development*







**SUNDAY, OCTOBER 3, 2004**

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7:00 AM – 6:00 PM

**Registration**  
*Ballroom Foyer*

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7:00 AM – 8:30 AM

**Breakfast Meetings**

2005 Program Committee (First Meeting)  
*Le Bateau Room*

Molecular Epidemiology  
Special Interest Group  
*Kings Garden North*

Transgenic and *In Vitro* Mutagenesis  
Special Interest Group  
*Kings Garden South*



**SUNDAY, OCTOBER 3, 2004**

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8:30 AM – 12:00 PM

**Human Variation and  
Cancer Susceptibility Symposium**

*Ballroom 2*

Chairpersons

Marianne Berwick, University of New Mexico  
and  
David Hunter, Harvard School of Public Health

8:30 AM – 8:45 AM	Introduction
8:45 AM – 9:15 AM	DNA Repair Capacity and Cancer <i>Marianne Berwick, University of New Mexico</i>
9:15 AM – 9:45 AM	Radical Causes of Human Cancer: Inflammation, Nitric Oxide and p53 <i>Curtis C. Harris, National Cancer Institute</i>
9:45 AM – 10:15 AM	Haplotypes and Cancer Risks <i>David Hunter, Harvard School of Public Health</i>
10:15 AM – 10:30 AM	Break
10:30 AM – 11:00 AM	DNA Sequence Variation and Linkage Disequilibrium: Roles in Cancer Etiology <i>Debbie Nickerson, University of Washington</i>



## **SUNDAY, OCTOBER 3, 2004**

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11:00 AM – 11:30 AM Genetic and Environmental  
Modifiers of Penetrance in BRCA1 and  
BRCA2 Carriers  
*Timothy R. Rebbeck, University of  
Pennsylvania*

11:30 AM – 12:00 PM The Role of Methylation in Lung Cancer  
Etiology  
*Steve Belinsky, Lovelace Respiratory  
Research Institute*

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**SUNDAY, OCTOBER 3, 2004**

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8:30 AM – 12:00 PM

**Platform Session 1**

**Responses to Environmental Agents**

*Ballroom 3*

Chairpersons

Priscilla K. Cooper, Lawrence Berkeley National Laboratory  
and

Joann B. Sweasy, Yale University School of Medicine

Abstract

- |         |            |  |
|---------|------------|--|
| 8:30 AM | <b>30</b>  | <b>LOW-DOSE IRRADIATION PRIOR TO A CHALLENGE DOSE ALTERS THE MRNA TRANSCRIPT PROFILES OF HUMAN LYMPHOBLASTOID CELLS</b><br>Coleman M, Marchetti F, Nelson D, Peterson LE, Yin E, Tucker JD, Wyrobek AJ |
| 8:45 AM | <b>56</b>  | <b>DIFFERENTIAL TRANSCRIPTIONAL RESPONSES OF SACCHAROMYCES CEREVISIAE WITH ALTERED DNA REPAIR CAPACITIES</b><br>Fry R, Rao A, Samson L   |
| 9:00 AM | <b>131</b> | <b>GENOTOXICITY AND CELL CYCLE GENE EXPRESSION CHANGES INDUCED BY NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NRTIS)</b><br>Olivero OA, Tejera AM, Das SA, Divi RL, Poirier MC                        |
| 9:15 AM | <b>75</b>  | <b>HUMAN S CHECKPOINTS: MULTIPLE MECHANISMS INHIBIT REPLICON INITIATION AFTER DNA DAMAGE</b><br>Heffernan T, Unsal-Kacmaz K, Heinloth A, Sancar A, Paules RS, Cordeiro-Stone M, Kaufmann WK            |
| 9:30 AM | <b>168</b> | <b>REPAIR OF OXIDATIVE BASE DAMAGE IN UV-SENSITIVE SYNDROME CELLS</b><br>Spivak G, Hanawalt PC   |



## SUNDAY, OCTOBER 3, 2004

### Abstract

- 9:45 AM     **95**     **XPA AS A RATE-LIMITING FACTOR FOR UV SENSITIVITY AND NUCLEOTIDE EXCISION REPAIR**  
Köberle B, Roginskaya V, Wood RD
- 10:00 AM     **148**     **INTERACTION OF TCR AND BER PROTEINS WITH STALLED RNA POLYMERASE II : IMPLICATIONS FOR TRANSCRIPTION-COUPLED REPAIR**  
Sarker AH, Tsutakawa SE, Kostek S, Hazra T, Ng C, Nogales E, Cooper PK
- 10:15 AM     Break
- 10:30 AM     **43**     **THE HUMAN MISMATCH REPAIR PATHWAY AND *O*<sup>6</sup>-METHYLGUANINE METHYLTRANSFERASE COOPERATE IN THE REPAIR OF *O*<sup>6</sup>-METHYLGUANINE LESIONS**  
Drummond J
- 10:45 AM     **58A**     **GENOMIC INSTABILITY INDUCED BY LOW DOSES OF GAMMA-RADIATION**  
Gibbons C, Ritter L, Grosovsky AJ
- 11:00 AM     **125**     **HEMATOPOIETIC AGING IN CROSSLINK REPAIR-DEFICIENT *ERCCI*<sup>-/-</sup> MICE**  
Niedernhofer LJ, Prasher J, Lalai A, Touw I, Hoeijmakers JHJ
- 11:15 AM     **114**     **DEFECTIVE REPAIR OF ALKYLATION DNA DAMAGE IN MICE**  
Meira LB, Pease K, Kerrison F, Dong M, Fry R, Dedon P, Samson LD
- 11:30 AM     **181**     **RNAI-MEDIATED POL-BETA SILENCING RESULTS IN INCREASED SENSITIVITY TO TEMOZOLOMIDE**  
Trivedi RN, Schamus S, Sobol RW
- 11:45 AM     **136**     **FURTHER DEFINING PROTEIN-PROTEIN INTERACTIONS BETWEEN TWO MULTI-FUNCTIONAL HUMAN DNA REPAIR PROTEINS, XERODERMA PIGMENTOSUM-G AND POLY(ADP-RIBOSE) POLYMERASE**  
Pluth JM, Zahed Karagaran H, Campeau E, Cooper PK



**SUNDAY, OCTOBER 3, 2004**

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1:00 PM – 4:30 PM

**Unusual Mechanisms of Mutation Symposium**

*Ballroom 2*

Chairpersons

Paul Doetsch, Emory University  
and  
Patricia Foster, Indiana University

- |                |  |
|----------------|--|
| 1:00 – 1:10 PM | Introduction   |
| 1:10 – 1:40 PM | Stress-Induced Mutagenesis in Bacteria<br><i>Patricia Foster, Indiana University</i>   |
| 1:40 – 2:10 PM | Transcriptional Mutagenesis in Bacteria and Mammals<br><i>Paul Doetsch, Emory Univ. School of Medicine</i>   |
| 2:10 – 2:40 PM | Mutagenesis via Mistranslation<br><i>M. Zafri Humayun, University of Medicine and Dentistry of New Jersey</i>  |
| 2:40 – 3:10 PM | AID-Mediated Somatic Hypermutation<br><i>Matthew Scharff, Albert Einstein College of Medicine</i>  |
| 3:10 – 3:30 PM | Break – Exhibit Hall   |
| 3:30 – 4:00 PM | Surveillance Mechanisms Discriminating Between Functional and Mutant Transcripts<br><i>Miles Wilkinson, University of Texas, MD Anderson Cancer Center</i> |
| 4:00 – 4:30 PM | New Mechanisms for Mitochondrial Mutations and Human Disease<br><i>Michio Hirano, Columbia University</i>  |



**SUNDAY, OCTOBER 3, 2004**

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1:00 PM – 4:30 PM

**Germ and Stem Cell Mutagenesis Symposium**

Ballroom 3

Chairpersons

Sheila M. Galloway, Merck Research Laboratories  
and  
James F. Crow, University of Wisconsin

- |                |   |
|----------------|---|
| 1:00 – 1:10 PM | Introduction  |
| 1:10 – 1:40 PM | Asymmetric Cell Kinetics and Control of<br>Grown and Mutation in Stem Cells<br><i>James Sherley, Massachusetts Institute<br/>of Technology</i>            |
| 1:40 – 2:10 PM | Mutation Rates and Apoptosis Control in<br>Cultured Stem Cells<br><i>Peter Stambrook, University of Cincinnati</i>  |
| 2:10 – 2:40 PM | Selection in the Male Germ Line and the<br>Paternal Age Effect on Human Mutation<br><i>Andrew Wilkie, University of Oxford</i>                            |
| 2:40 – 3:10 PM | Genotyping Individual Germ Cells<br><i>Norman Arnheim, University of Southern<br/>California</i>  |
| 3:10 – 3:30 PM | Break – Exhibit Hall  |
| 3:30 – 4:00 PM | Estimation of Human Mutation Rate and<br>Comparisons with the Mouse Genome<br><i>Alexey Kondrashov, National Center for<br/>Biotechnology Information</i> |
| 4:00 – 4:30 PM | Assessing Human Germ Cell Mutagenesis in<br>the Post-Genome Era<br><i>John J. Mulvihill, University of Oklahoma</i>                                       |



**SUNDAY, OCTOBER 3, 2004**

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4:30 PM – 5:30 PM

**Keynote Lecture**

*Ballroom 3*

Philip A. Sharp  
Massachusetts Institute of Technology

**The Surprising Biology of Short RNAs**







**SUNDAY, OCTOBER 3, 2004**

5:30 PM – 7:30 PM

**Exhibits  
and  
Poster Session 1:  
Responses to Environmental Agents**

*Ballroom 1*

Odd numbered posters to be attended from 5:30 PM – 6:30 PM

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

Poster	Abstract	
1	4	<b>CYCLOOXYGENASE 2 EXPRESSION IN FIBROSARCOMA CELL LINE EXPOSED TO UVC RADIATION</b> Cortés AC, Monroy CM, Ruiz JR, Sicard DS, Groot HG
2	7	<b>FUNCTIONAL EVALUATION OF POLYMORPHIC DNA REPAIR GENES, CHROMOSOME ABERRATIONS AND LUNG CANCER</b> Au WA, Salama SA, Harms C
3	9	<b>CHANGES IN HEPATIC GENE EXPRESSION IN FISHER RATS INDUCED BY DIETARY EXPOSURE TO AROCLOR 1254</b> Basford TM, Means JC
4	10	<b>BIOMARKERS OF SUSCEPTIBILITY, OXIDATIVE STRESS, AND BIOLOGICAL EFFECT AFTER ACUTE OZONE EXPOSURE IN HUMANS</b> Bastaki M, Chen CL, Manzanillo P, Beckman K, Tager IB, Balmes JR, Holland NT <i>Note: Now being presented in Platform Session 3 on Wednesday, October 6, 2004 at 11:45 AM.</i>
5	18	<b>INDUCTION OF CHROMOSOMAL INSTABILITY AND TUMORS IN B-POL HAPLOINSUFFICIENT MICE</b> Cabelof DC, Ikeno Y, Sobol RW, Tucker JD, Wilson SH, Richardson A, Heydari AR



## SUNDAY, OCTOBER 3, 2004

Poster	Abstract	
6	26	<b>MUTATIONS INDUCED BY ARISTOLOCHIC ACID IN THE KIDNEY OF BIG BLUE TRANSGENIC RAT</b> Chen L, Mei N, Chen T
7	27	<b>EFFECT OF SELENIUM ON THE FATE OF MCF-7 CELLS AFTER DOXORUBICIN-INDUCED DNA DAMAGE</b> Chen Y, Shen S, Waters DJ
8	44	<b>CYTOKINES INDUCE NO-MEDIATED MTDNA DAMAGE AND APOPTOSIS IN OLIGO-DENDROCYTES: PROTECTIVE ROLE OF TARGETING 8-OXOGUANINE GLYCOSYLASE TO MITOCHONDRIA</b> Druzhyina NM, Wilson GL, LeDoux SP
9	66	<b>MULTIPLE ORGAN MUTATION FREQUENCIES AT THE CII LOCI IN THE BIG BLUE RAT TREATED WITH ETHYLNITROSOUREA</b> Gunther WC, O'Lone SD, Schuler MJ
10	70	<b>O<sup>6</sup>-METHYLGUANINE DNA METHYLTRANSFERASE LEU84PHE AND BREAST CANCER RISK</b> Han J, Tranah GJ, Hankinson SE, Samson LD, Colditz GA, Hunter DJ
11	73	<b>NOVEL TRANSCRIPTIONAL REPORTERS FOR THE HUMAN <i>GADD45</i> GENE REVEAL THE CRITICAL IMPORTANCE OF DOWNSTREAM ELEMENTS IN MAXIMUM RESPONSE TO GENOTOXIC STRESS</b> Hastwell PW, Walmsley RM
12	74	<b>A YEAST MODEL OF FRIEDREICH'S ATAXIA: GENOTOXICITY OF MITOCHONDRIAL IRON ACCUMULATION</b> Haugen AC, Karthikeyan G, Collins JB, Tucker CJ, Resnick MA, Van Houten B



## SUNDAY, OCTOBER 3, 2004

Poster	Abstract	
13	86	<b>MODULATION OF CYP1A1 AND CYP1B1 EXPRESSION BY CHLOROPHYLLIN IN NORMAL HUMAN MAMMARY EPITHELIAL CELLS EXPOSED TO BENZO(A)PYRENE</b> John K, Keshava C, Divi RL, Whipkey DL, Poirier MC, Weston A, Nath J
14	87	<b>CHROMIUM PICOLINATE DOES NOT PRODUCE CHROMOSOME DAMAGE IN THE <i>IN VITRO</i> MAMMALIAN CHROMOSOME ABERRATION TEST WITH CHO CELLS</b> Juturu V, Slesinski RS, Gudi R, San R, Komorowski JR
15	91	<b>DETECTION OF P53 AND K-RAS MUTATIONS IN SPUTUM OF NONSMOKING WOMEN EXPOSED TO SMOKY COAL COMBUSTION EMISSIONS IN XUAN WEI COUNTY, CHINA</b> Keohavong P, Lan Q, Gao WM, Zheng KC, Mady H, Melhem M, Mumford JL
16	94	<b>INVESTIGATING THE ROLE OF EXONUCLEASE I IN THE <math>O^6</math>-METHYLGUANINE-INDUCED APOPTOSIS</b> Klapacz J, Meira LB, Edelmann W, Samson LD
17	98	<b>CHRONIC EXPOSURE TO X-RAYS SUPPRESSES HOMOLOGOUS RECOMBINATION IN MICE</b> Kovalchuk O, Hendricks C, Cassie S, Engelward B
18	100	<b>RELIABLE COMET MEASUREMENTS</b> Kumaravel TS
19	109	<b>REDUCTION IN TAMOXIFEN METABOLIC ACTIVATION AND GENOTOXICITY BY ANTISENSE TECHNOLOGY</b> Mahadevan B, Arora V, Schild LJ, Keshava C, Cate ML, Iversen PL, Poirer MC, Weston A, Pereira C, Baird WM
20	115	<b>A CAENORHABDITIS ELEGANS MODEL OF FRIEDREICH'S ATAXIA SHOWS IRON SENSITIVITY, MITOCHONDRIAL DNA DAMAGE, AND ALTERED GENE EXPRESSION</b> Meyer JN, Boyd WA, Haugen AC, Freedman JH, Van Houten B



## SUNDAY, OCTOBER 3, 2004

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Poster	Abstract	
21	124	<b>DNA REPAIR PATHWAYS IN THE HEMATOPOIETIC SYSTEM</b> Nattamai KJ, Daria D, Geiger H
22	128	<b>EFFECT OF POLYCYCLIC AROMATIC HYDROCARBON ON HUMAN PROSTATE CARCINOMA CELL LINE (LNCAP)</b> Nwagbara OF, Gragg RD, Reed SF
23	129	<b>METABOLIC ACTIVATION OF 3-NITROBENZ-ANTHRONE BY THE HUMAN RECOMBINANT CYTOCHROME P450 AND ACETYL-TRANSFERASE</b> Oda Y, Watanabe T, Hirayama T
24	134	<b>DETECTION OF MRNA <i>IN SITU</i> USING ROLLING CIRCLE AMPLIFICATION</b> Petibone DM, Thomas RA, Itoh S, Tucker JD
25	136	<b>FURTHER DEFINING PROTEIN-PROTEIN INTERACTIONS BETWEEN TWO MULTI-FUNCTIONAL HUMAN DNA REPAIR PROTEINS, XERODERMA PIGMENTOSUM-G AND POLY(ADP-RIBOSE) POLYMERASE</b> Pluth JM, Zahed Karagaran H, Campeau E, Cooper PK <i>Note: Now being presented in Platform Session 1 on Sunday, October 3, 2004 at 11:45 AM.</i>
26	154	<b>POLQ (POL THETA), A DNA POLYMERASE AND DNA-DEPENDENT ATPASE IN HUMAN CELLS</b> Seki M, Wood RD
27	158	<b>INHIBITION OF PHIP-INDUCED DAMAGE BY CHLOROPHYLLIN IN HUMAN LYMPHOBLASTOID CELLS IN THE ALKALINE SINGLE-CELL GEL ELECTROPHORESIS (COMET) ASSAY</b> Shaughnessy DS, Taylor JA
28	160	<b>INTERACTIONS OF DNA BASE EXCISION REPAIR ENZYMES MUTY HOMOLOG (MYH) WITH PCNA-RELATED CHECKPOINT PROTEINS</b> Shi GL, Cheng CC, Chang DY, Lu AL



## SUNDAY, OCTOBER 3, 2004

Poster	Abstract	
29	162	<b>TAT-MEDIATED INTRAMITOCHONDRIAL PROTEIN DELIVERY AS MEANS FOR TARGETING DNA REPAIR ENZYMES TO MITOCHONDRIA</b> Shokolenko IN, Alexeyev MF, LeDoux SP, Wilson GL
30	170	<b><i>IN VITRO</i> GENOTOXICITY OF RADIO-FREQUENCY (935 MHZ) ALONE OR IN COMBINATION WITH X-RAYS AS EVALUED BY CYTOGENETICS</b> Stronati L, Appolloni M, Fresegna AM, Villani P, Lloyd D, Moquet J, Edwards A
31	174	<b>DROSOPHILA DAMAGED DNA BINDING PROTEIN 1 (D-DDB1) IS AN ESSENTIAL FACTOR FOR DEVELOPMENT</b> Takata KT, Yoshida HY, Yamaguchi MY, Hirose FH, Sakaguchi KS
32	184	<b>INCREASED THROUGHPUT VERSION OF THE <i>IN VITRO</i> MICRONUCLEUS TEST</b> Van Goethem F, De Boeck M, van der Leede BM, De Smedt A, Steemans M, Lampo A, Vanparys P
33	186	<b>ALTERED AZT METABOLISM MAY INDUCE CELLULAR DRUG RESISTANCE IN HUMAN CELLS</b> Vazquez IL, Olivero O, Poirier M
34	189	<b>THE INFLUENCE OF MIXING RATIO ON <i>IN VITRO</i> CYTOTOXICITY OF DRINKING WATER DISINFECTION BY-PRODUCT MIXTURES</b> Wagner ED, Hsu KM, Simmons JE, Plewa MJ
35	193	<b>STUDIES OF THE EARLY STEPS IN MISMATCH REPAIR</b> Wang H, Hoffman PD, Hays JB
36	195	<b>DEVELOPMENT AND EVALUATION OF A FLOW CYTOMETRIC METHOD FOR THE ANALYSIS OF MICRONUCLEI IN RAT BONE MARROW <i>IN VIVO</i></b> Weiner SK, Fiedler RD, Schuler MJ



## SUNDAY, OCTOBER 3, 2004

Poster	Abstract	
37	196	<b>ARE BUTADIENE DIEPOXIDE DNA ADDUCTS RECOGNIZED BY NUCLEOTIDE EXCISION REPAIR: AN <i>IN VIVO</i> TEST USING XPC KNOCKOUT MICE</b> Wickliffe JK, Xie J, Galbert LA, Ammenheuser MM, Salazar JJ, Lloyd RS, Ward JB
38	36A	<b>MUTAGENESIS, CYTOTOXICITY AND REPAIR OF 1-METHYLADENINE, 3-ALKYLCYTOSINES, 1-METHYLGUANINE AND 3-ETHYLTHYMINE IN ALKB <i>ESCHERICHIA COLI</i></b> Delaney JC, Essigmann JM <i>Note: Now being presented in Platform Session 2 on Monday, October 4, 2004 at 11:45 AM.</i>
39	144A	<b>COMET FORMATION IN RESPONSE TO IRRADIATION OF LYMPHOCYTES WITH NEUTRONS AND GAMMA RAYS</b> Rossouw MS, Meehan K, Groenewald WAG, Slabbert JP
40	163A	<b>RESPONSE OF CHO-K1 CELLS TO GAMMA AND NEUTRON RADIATION AS MEASURED BY SINGLE CELL GEL ELECTROPHORESIS (SCGE)</b> Smit KA, Slabbert J, Meehan KA
41	34	<b>REGULATION OF CYTOCHROME P450 ISOFORMS BY HISTAMINE IN RAT LIVER</b> Dávila VM, Belmont JA, Albores A, Montero RD
42	35	<b>METHYLATION AS A POTENTIAL MECHANISM OF ADAPTIVE RESPONSE AFTER EXPOSURE TO X-RADIATION</b> Day TK, Hooker AM, Bhat M, Cormack J, Morley AA, Sykes PJ
43	71	<b>ALTERING DNA BASE EXCISION REPAIR (BER): USE OF NUCLEAR AND MITOCHONDRIAL-TARGETED METHYLPURINE DNA GLYCOSYLASE (MPG) TO SENSITIZE GLIAL CELLS TO ALKYLATING AGENTS</b> Harrison JF, Kelley MR, Wilson GL, LeDoux SP



## SUNDAY, OCTOBER 3, 2004

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Poster	Abstract	
44	76	<b>A POLYMORPHISM IN THE DNA REPAIR GENE MGMT INCREASES HUMAN SENSITIVITY TO THE TOBACCO-SPECIFIC NITROSAMINE NNK</b> Hill CE, Affatato AA, Wolfe KJ, Galbert LA, Wickliffe JK, Abdel-Rahman SZ
45	78	<b>PROTECTIVE EFFECT OF YEAST MAJOR AP ENDONUCLEASE APN1 EXPRESSION IN A MAMMALIAN NEURONAL CELL LINE</b> Ho R, Rachek LI, Xu Y, Kelley MR, LeDoux SP, Wilson GL
46	112	<b>FUNCTIONAL GENOMIC STUDIES OF HUMAN PEROXIDASES</b> McLachlan JJ, Josephy PD
47	127	<b>ANALYSIS OF CHANGES IN GENE EXPRESSION IN RAT LIVER AFTER BENZO(A)PYRENE EXPOSURE ASSESSED BY AFFYMETRIX MICROARRAY AND REAL-TIME PCR</b> N'jai AU, Means JC
48	145	<b>CHRONIC ANTIOXIDANT TREATMENT AND REPRESSION OF FAPY SITES IN GENOMIC DNA OF MAMMALIAN CELLS</b> Rundell MS, Muellner MG, Wagner ED, Plewa MJ
49	161	<b>IL2 MRNA EXPRESSION LEVELS DEPEND UPON PHA CONCENTRATION AS WELL AS EXPOSURE DURATION</b> Shi H, Thomas RA, Petibone DM, Tucker JD

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## MONDAY, OCTOBER 4, 2004

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7:00 AM – 6:00 PM

### **Registration**

*Ballroom Foyer*

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7:00 AM – 8:30 AM

### **Breakfast Meetings**

Exhibitor's Breakfast

*Brigade Room*

ICEM Organizing Committee

*Duquesne Room*

Germ Cell/Stem Cell Special Interest Group

*Kings Garden North*

Risk Assessment Special Interest Group

*Sponsor:*

*Boehringer Ingelheim Pharmaceuticals, Inc.*

*Kings Garden South*

Student and New Investigator Breakfast

*Benedum Room*





## MONDAY, OCTOBER 4, 2004

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8:30 AM – 12:00 PM

### **Recombination and the Maintenance of Genome Stability Symposium**

*Ballroom 2*

Chairpersons

Bevin P. Engelward, Massachusetts Institute of Technology  
and

John A. Tainer, The Scripps Research Institute

- |                     |  |
|---------------------|--|
| 8:30 AM – 8:45 AM   | Introduction   |
| 8:45 AM – 9:15 AM   | Structural Aspects of Recombination<br>Repair<br><i>John A. Tainer, The Scripps Research<br/>Institute</i>                             |
| 9:15 AM – 9:45 AM   | Mouse Models for Measuring <i>In Vivo</i><br>DNA Recombination<br><i>Bevin P. Engelward, Massachusetts<br/>Institute of Technology</i> |
| 9:45 AM – 10:15 AM  | Targeting Recombination Events in Yeast<br><i>Michael A Resnick, National Institute of<br/>Environmental Health Sciences</i>           |
| 10:15 AM – 10:30 AM | Break – Exhibit Hall   |
| 10:30 AM – 11:00 AM | Molecular Mechanisms of Recombination<br><i>Steve C. Kowalczkowski, University of<br/>California, Davis</i>                            |
| 11:00 AM – 11:30 AM | The Interface Between End Joining and<br>Homologous Recombination<br><i>Jac Nickoloff, University of New Mexico</i>                    |



## MONDAY, OCTOBER 4, 2004

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8:30 AM – 12:00 PM

### **Platform Session 2 Mechanisms of Mutation**

*Ballroom 3*

Chairpersons

Ronald D. Snyder, Schering-Plough Research Institute  
and  
Rosalie K. Elespuru, U.S. FDA

Abstract

- |         |            |  |
|---------|------------|--|
| 8:30 AM | <b>167</b> | <b>SPONTANEOUS MULTIPLE MUTATIONS<br/>SHOW UNIQUE FEATURES THAT CONSTRAIN<br/>HYPOTHESES ABOUT MUTATIONAL<br/>MECHANISMS AND ULTIMATELY PROVIDE<br/>INSIGHT INTO CARCINOGENESIS</b><br>Sommer SS, Hill KA, Wang J, Farwell KD, Scaringe WA |
| 8:45 AM | <b>101</b> | <b>HUMAN BREAST TUMORS MANIFEST BOTH<br/>HEREDITARY DEFICIENCY AND SOMATIC<br/>LOSS OF DNA (NUCLEOTIDE EXCISION)<br/>REPAIR</b><br>Latimer JJ, Johnson JM, Kelly CM, Grant SG, Vogel<br>V, Brufsky AM, Kelley J                            |
| 9:00 AM | <b>188</b> | <b>ACCUMULATION OF SIMULATED SOLAR<br/>LIGHT INDUCED MOUSE P53 CODON 27 CGT<br/>TO TGT MUTATION DURING SKIN TUMOR<br/>DEVELOPMENT</b><br>Verkler TL, Delongchamp RR, Warbritton A, Couch<br>LH, Miller BJ, Howard PC, Parsons BL           |
| 9:15 AM | <b>172</b> | <b>CANCER-ASSOCIATED MUTANTS OF DNA<br/>POLYMERASE BETA INDUCE FOCUS<br/>FORMATION AND INACCURATE DNA<br/>SYNTHESIS</b><br>Sweasy JB, Lang T, Maitra M, DiMaio D, Dalal S,<br>Starcevic D  |

## MONDAY, OCTOBER 4, 2004

### Abstract

- 9:30 AM    **108**    **ATPASE ACTIVITY OF MSH2 PROTEINS FROM TRYPANOSOMA CRUZI CORRELATES WITH DIFFERENCES IN MISMATCH REPAIR EFFICIENCY OBSERVED AMONG VARIOUS PARASITE STRAINS**  
Machado-Silva A, Augusto-Pinto L, DaRocha WD, Pena SDJ, Teixeira SMR, Machado CR
- 9:45 AM    **89**    **NO MAJOR ROLE FOR 8-OXOGUANINE IN UVA-MUTAGENESIS**  
Kappes UP, Rünger TM
- 10:00 AM    **192**    **NATURALLY OCCURRING H-DNA STRUCTURES ARE MUTAGENIC IN MAMMALIAN CELLS**  
Wang G, Vasquez KM
- 10:15 AM       Break – Exhibit Hall
- 10:30 AM    **80**    **THE FATE OF CHROMOSOMAL DOUBLE STRAND BREAKS IN HUMAN CELLS**  
Honma M, Sakuraba M, Koizumi T, Hayashi M
- 10:45 AM    **96**    **MULTIPLE DNA POLYMERASES INVOLVED IN CHEMICALLY-INDUCED FRAMESHIFT MUTAGENESIS IN *ESCHERICHIA COLI* AND *SALMONELLA TYPHIMURIUM***  
Kokubo K, Yamada M, Kim SR, Gruz P, Shimizu M, Kanke Y, Nohmi T
- 11:00 AM    **165**    **CONTRIBUTION OF N-DIALKYL SUBSTITUTION TO THE GENOTOXICITY AND DNA INTERCALATION ABILITY OF DRUGS AND OTHER CHEMICALS**  
Snyder RD, McNulty J, Zairov G, Hendry LB
- 11:15 AM    **22**    **A NEW FORM OF RNA EDITING FOUND IN A CHILDHOOD DISEASE CORRECTS A LETHAL STOP CODON**  
Chan S, Naviaux R, Copeland W
- 11:30 AM    **204**    **TANDEM REPEAT DNA: APPLICATIONS IN GERMLINE MUTATION ANALYSIS**  
Yauk CL
- 11:45 AM    **36A**    **MUTAGENESIS, CYTOTOXICITY AND REPAIR OF 1-METHYLADENINE, 3-ALKYLCYTOSINES, 1-METHYLGUANINE AND 3-ETHYLTHYMINE IN ALKB *ESCHERICHIA COLI***  
Delaney JC, Essigmann JM



## MONDAY, OCTOBER 4, 2004

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1:00 PM – 4:30 PM

### **Metals, Mutagenesis and Cancer Symposium**

*Ballroom 2*

Chairpersons

Toby G. Rossman, New York University  
and  
Kathleen Dixon, University of Cincinnati

- |                   |  |
|-------------------|--|
| 1:00 PM – 1:10 PM | Introduction   |
| 1:10 PM – 1:40 PM | Arsenic as a Co-Carcinogen<br><i>Toby G. Rossman, New York University</i>  |
| 1:40 PM – 2:10 PM | Chromium – Mechanisms of Mutagenesis<br><i>Kathleen Dixon, University of Cincinnati</i>  |
| 2:10 PM – 2:40 PM | Nickel-Induced Chromatin Damage<br><i>Kazimierz S. Kasprzak, National Cancer Institute</i>   |
| 2:40 PM – 3:10 PM | Iron Overload as a Cause of Cancer<br><i>Xi Huang, New York University</i>   |
| 3:10 PM – 3:30 PM | Break – Exhibit Hall   |
| 3:30 PM – 4:00 PM | Biomarkers of Susceptibility and Effect of Arsenic Carcinogenesis in Human Population<br><i>Habibul Ahsan, Columbia University</i> |
| 4:00 PM – 4:30 PM | Inhibition of Inducible Gene Expression by Chromium<br><i>Alvaro Puga, University of Cincinnati</i>                                |



**MONDAY, OCTOBER 4, 2004**

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1:00 PM – 4:30 PM

**Microbes, Mutation and Malignancy Symposium**

*Ballroom 3*

Chairpersons

David Schauer, Massachusetts Institute of Technology  
and

Lorne Hofseth, University of South Carolina

- |                   |   |
|-------------------|---|
| 1:00 PM – 1:10 PM | Introduction  |
| 1:10 PM – 1:40 PM | Colonic Infection and Cancer Susceptibility<br><i>David Schauer, Massachusetts Institute of Technology</i>                                      |
| 1:40 PM – 2:10 PM | Induction of a Mutator Phenotype in Inflamed Tissues<br><i>Lorne Hofseth, University of South Carolina</i>                                      |
| 2:10 PM – 2:40 PM | Carcinogenicity of <i>Helicobacter pylori</i> Infection<br><i>Pelayo Correa, Louisiana State University</i>                                     |
| 2:40 PM – 3:10 PM | Lessons Learned from Molecular Profiling of Human Hepatocellular Cancer<br><i>Xin Wei Wang, National Cancer Institute</i>                       |
| 3:10 PM – 3:30 PM | Break – Exhibit Hall  |
| 3:30 PM – 4:00 PM | Introduction of Genetic Instability by Human Papillomavirus Oncoproteins<br><i>Denise Galloway, Fred Hutchinson Cancer Research Center</i>      |
| 4:00 PM – 4:30 PM | The Role of T Cells in Toxicity and Carcinogenicity Induced by Alkylating Agents<br><i>Barry Gold, Eppley Institute, University of Nebraska</i> |



**MONDAY, OCTOBER 4, 2004**

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4:30 PM – 5:30 PM

**Keynote Lecture**

*Ballroom 3*

David Botstein, Princeton University

**Genome-Wide Transcriptional Responses  
to Environmental Change**





**MONDAY, OCTOBER 4, 2004**

5:30 PM – 7:30 PM

**Exhibits  
and  
Poster Session 2:  
Mechanisms of Mutation**

*Ballroom 1*

Odd numbered posters to be attended from 5:30 PM – 6:30 PM  
Even numbered posters to be attended from 6:30 PM – 7:30 PM

Poster	Abstract	
1	3	<b>EFFECTS OF <i>MSH3</i> GENE DELETION ON TARGETED HOMOLOGOUS RECOMBINATION IN <i>ERCC1</i> WILD-TYPE OR <i>ERCC1</i> KNOCK-OUT CELL LINES</b> Adair GM, Robison T, Della-Coletta L, Talbert LL, Nairn RS
2	8	<b>A NOVEL PROTEIN, MGC5306 INTERACTS WITH A DOMINANT NEGATIVE MUTANT OF DNA POLYMERASE BETA, A BASE-EXCISION REPAIR PROTEIN</b> Banerjee S, Wang L, Bhattacharyya N, Kim R, Chelsea D
3	16	<b>FUNCTIONAL STUDIES OF THE HUMAN <i>MLH1</i> GENE</b> Buermeyer AB, Mohd AB, Nguyen M, Ing B, Palama B
4	17	<b>ARSENIC COMUTAGENICITY WITH BENZO(A)PYRENE IN SKIN OF BIG BLUE TRANSGENIC MICE</b> Bukvic A, Andringa A, Genter MB, Dixon K
5	31	<b>PCR-DGGE BASED DETECTION OF INCREASED FREQUENCIES OF MITOCHONDRIAL DNA MUTATIONS IN INFANTS EXPOSED <i>IN UTERO</i> TO AZT-3TC</b> Cook DL, Ming JM, Walker VE



## MONDAY, OCTOBER 4, 2004

Poster	Abstract	
6	47	<b>MOLECULAR EPIDEMIOLOGY OF HUMAN LUNG CANCER: ANALYSIS USING THE IARC TP53 DATABASE</b> Elespuru RK, Jennings SM
7	50	<b>CELL VIABILITY AS EVALUATED BY CLONING EFFICIENCY IS THE MAJOR FACTOR AFFECTING <i>IN VIVO</i> HPRT SOMATIC MUTATION FREQUENCIES</b> Evdokimova VN, Babra B, Grant SG
8	52	<b>FACTORS DETERMINING MUTAGENIC POTENCY</b> Felton JS, Knize MG, Malfatti M, Lau E, Colvin M, Hatch F, Lightstone F
9	62	<b>EXPLORING GENE'S FUNCTIONALITY AND EFFECT OF ENVIRONMENTAL CARCINOGENS USING MUTATION DATABASES</b> Gorlov IP, Gorlova OY, Amos CI
10	63	<b>ELEVATED SOMATIC MUTATION FREQUENCIES IN HOMOZYGOTES AND HETEROZYGOTES FOR INACTIVATING MUTATIONS IN THE GENES OF THE FA/BRCA PATHWAY OF DNA REPAIR</b> Grant SG, Evdokimova VN, Das R, Rubinstein WS, Latimer JJ, Auerbach AD
11	64	<b>STRUCTURE-FUNCTION DEFECTS OF HUMAN MITOCHONDRIAL DNA POLYMERASE IN AUTOSOMAL DOMINANT PROGRESSIVE EXTERNAL OPHTHALMOPLEGIA</b> Graziewicz MA, Longley MJ, Bienstock RJ, Zeviani M, Copeland WC





## MONDAY, OCTOBER 4, 2004

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Poster	Abstract	
12	69	<b>SEEKING ALL MUTATORS AND ANTIMUTATORS IN THE YEAST GENOME: PROOF OF CONCEPT</b> Hamilton MD, von Borstel RC
13	77	<b>TISSUE-SPECIFIC TIME COURSES OF SPONTANEOUS MUTATION FREQUENCY AND DEVIATIONS FROM THE CORE MUTATION PATTERN ARE OBSERVED IN MIDDLE TO LATE ADULthood IN BIG BLUE® MICE</b> Hill KA, Farwell KD, Longmate J, Scaringe WA, Wang J, Sommer SS
14	88	<b>FUNCTIONAL POLYMORPHISMS IN WERNER SYNDROME PROTEIN</b> Kamath-Loeb A, Welch P, Loeb LA
15	97	<b>MUTATIONAL SPECIFICITY OF N- NITROSONORNICOTINE IN LACZ MICE: MUTATIONS AT A:T BASE PAIRS</b> Kosinska W, Khmel'nitsky M, Cote M, Guttenplan JG
16	103	<b>MECHANISMS OF INHIBITION OF X-RAY- INDUCED MUTATIONS IN CHINESE HAMSTER G12 CELLS BY ANTIOXIDANTS</b> Leszczynska J, Lasano S, Klein CB
17	113	<b>RIDDELLINE-INDUCED MUTATIONS IN THE LIVER <i>CII</i> GENE OF TRANSGENIC BIG BLUE RATS</b> Mei N, Heflich RH, Chou MW, Fu PP, Chen T
18	117	<b>LIVER <i>CII</i> MUTANT FREQUENCY CORRELATES WITH TUMORIGENICITY IN FEMALE BIG BLUE MICE AND RATS FED MALACHITE GREEN AND LEUCOMALACHITE GREEN</b> Mittelstaedt RA, Mei N, Shaddock JG, Dobrovolsky VN, McGarrity LJ, Greenlees KJ, Heflich RH



## MONDAY, OCTOBER 4, 2004

Poster	Abstract	
19	123	<b>EFFECTS OF SOYBEAN PROCESSING BY-PRODUCT ON SPONTANEOUS MUTATION IN MISMATCH-REPAIR DEFICIENT CELLS</b> Mure K, Plewa MJ, Takeshita T, Rossman TG, Klein CB
20	132	<b>THE WERNER SYNDROME PROTEIN AND DNA REPAIR PATHWAYS AT TELOMERIC DNA</b> Opresko PL, Otterlei M, Fan J, Kolvraa S, Wilson DM, Seidman MM, Bohr VA
21	137	<b>CHARACTERISTICS OF INDUCED NSTABILITY AT A MOUSE TANDEM REPEAT LOCUS</b> Polyzos AA, Parfett CL, Healy C, Yu T, Douglas G, Yauk CL
22	140	<b>CONDITIONAL EXPRESSION OF HOGG1 IN MITOCHONDRIA IMPROVES MITOCHONDRIAL REPAIR OF NO-INDUCED DNA DAMAGE AND ENHANCES CELL SURVIVAL</b> Rachek LI, LeDoux SP, Wilson GL
23	142	<b>MISMATCH REPAIR ROLE IN DNA DAMAGE RESPONSES</b> Rajasekaran B, Gao Y
24	143	<b>ARSENIC AND MITOTIC RECOMBINATION IN MICE</b> Robbins S, Fischer J, Stambrook PJ, Stringer S, Al-Zoughool M, Kannamkumarath S, Stringer J
25	150	<b>INCREASED LEVELS OF SINGLE-STRAND DNA BREAKAGE AND ALKALI-LABILE SITES BUT NOT DOUBLE STRAND BREAKS IN SPERM OF OLDER MEN</b> Schmid TE, Baumgartner A, Marchetti F, Young S, Anderson D, Eskenazi B, Wyrobek AJ



## MONDAY, OCTOBER 4, 2004

Poster	Abstract	
26	151	<b><i>IN VITRO</i> CHARACTERIZATION OF NITROSYLATION-MEDIATED MUTAGENIC ACTIVATION OF SOY ISOFLAVONES</b> Schrader TJ, Fine J, Langlois I
27	152	<b>SPONTANEOUS AND RADIATION-INDUCED INSTABILITY IN THE HUMAN LYMPHOBLASTOID CELL LINE TK6</b> Schwartz JL, Jordan R, Evans HH, Lenarczyk M, Liber H
28	155	<b>BENZO[A]PYRENE (B[A]P) MUTAGENIC MECHANISMS</b> Seo KY, Yin J, Nagalingam A, Lee D, Chandani S, Loechler EL
29	163	<b>LACK OF MUTAGENICITY OF CHROMIUM PICOLINATE IN THE CHO/HGPRT MUTATION ASSAY: RESULTS FROM STANDARD TESTS AND A TEST WITH A 48-HOUR EXPOSURE PERIOD</b> Slesinski RS, San R, Clarke J, Juturu V, Komorowski JR
30	171	<b>CEDU (5-(2-CHLOROETHYL)-2'-DEOXY-URIDINE), A SALMONELLA POSITIVE, NON-CLASTOGENIC NUCLEOSIDE ANALOGUE THAT INDUCES A:T TO G:C TRANSITIONS <i>IN VIVO</i></b> Suter W, Staedtler F, Plappert-Helbig U, Glowienke S, Racine R, Wolf R, Martus HJ
31	175	<b>POLYAMINES FACILITATE THE FORMATION OF THE MUTAGENIC DNA ADDUCT 1, N<sup>2</sup>-PROPANODG FROM ACETALDEHYDE AND DNA: IMPLICATIONS FOR THE MECHANISM OF ALCOHOL-RELATED CARCINOGENESIS</b> Theruvathu JA, Nath RG, Brooks PJ



## MONDAY, OCTOBER 4, 2004

Poster	Abstract	
32	182	<b>AZO DYES ARE MAJOR CONTRIBUTORS TO THE MUTAGENIC ACTIVITY DETECTED IN THE CRISTAIS RIVER WATERS</b> Umbuzeiro G, Freeman HS, Warren SH, de Oliveira DP, Terao Y, Watanabe T, Claxton LD
33	183	<b>COMPARISON OF <i>IN VIVO</i> MUTATION IN GENE <i>A</i> OF <i>IPHIX174</i> TO <i>ILACI</i> AND <i>ICII</i> OF LAMBDA FROM SPLENIC LYMPHOCYTES IN TRANSGENIC MICE</b> Valentine CR, Rainey HF, Delongchamp RR
34	187	<b>METHYLATION PATTERNS UNDERLYING EPIGENETIC REGULATION OF GENE EXPRESSION IN MISMATCH REPAIR-DEFECTIVE COLON CANCER CELL LINES</b> Veigl ML, Young B, Polinkovsky A, Strickfaden S, Sedwick WD
35	190	<b>EVIDENCE FOR OCCASIONAL “MUTATION SHOWERS” AND THEIR ENHANCEMENT IN P53-DEFICIENT MICE</b> Wang J, Hill KA, Farwell KD, Nasrawi S, Tsai KP, Sommer SS
36	198	<b>THE ROLE OF DNA POLYMERASE ZETA IN GENOME MAINTENANCE AND MOUSE DEVELOPMENT</b> Wittschieben J, Patil V, Skarja S, Gan G, Gollin S, Wood R
37	201	<b>IDENTIFY THE HUMAN HOMOLOGUE OF DNA MISMATCH REPAIR GENES (MSH2 AND MLH1) FROM <i>DICTYOSTELIUM</i></b> Xu XS, Zhang Y, Wang G
38	206	<b>INVOLVEMENT OF HMGB1 PROTEIN IN HUMAN DNA MISMATCH REPAIR</b> Yuan F, Gu L, Guo S, Wang H, Li GM



## MONDAY, OCTOBER 4, 2004

Poster	Abstract	
39	182A	<b>GENETIC POLYMORPHISMS OF THE DNA REPAIR GENE <i>XRCC1</i>, AND RISK OF ACUTE LYMPHOBLASTIC LEUKEMIA IN COLOMBIAN CHILDREN</b> Uribe GI, Torres MM, Groot H
40	20	<b>DIRECTED EVOLUTION OF ALKB USING A PHAGEMID-BASED SYSTEM OF RANDOM MUTAGENESIS <i>IN VIVO</i></b> Camps M, Johnson BP, Loeb L
41	42	<b>DETERMINANTS OF MITOCHONDRIAL GENETIC STABILITY IN <i>SACCHAROMYCES CEREVISIAE</i></b> Doudican NA, Shadel GS, Doetsch PW
42	46	<b>DNA MISMATCH REPAIR AT A HUMAN ONCOGENIC HOT SPOT OF MUTATION</b> Edelbrock MA, Schroering AG, Fernstrom MJ, He H, Bathala S, Williams KJ
43	68	<b>STRUCTURE-FUNCTION ANALYSIS OF DNA POLYMERASE BETA AND O<sup>6</sup>-METHYLGUANINE-MODIFIED NUCLEOTIDE DISCRIMINATION</b> Hamid S, Eckert KA
44	104	<b>CHARACTERIZATION OF THE ROLE OF THE LOOP REGION OF DNA POLYMERASE BETA IN POLYMERIZATION FIDELITY</b> Lin GC, Sweasy JB
45	156	<b>MUTAGENIC AND CYTOTOXIC POTENTIAL OF N3-METHYLADENINE: EFFECTS OF N3-METHYLADENINE ON POLYMERASE PROCESSIVITY AND FIDELITY</b> Settles S, Monti P, Iannone R, Varadarajan S, Fronza G, Gold B
46	164	<b>EFFECTS OF PHIP, A FOOD-BORNE CARCINOGEN, ON MUTAGENESIS AND TUMORIGENESIS IN MLH1-DEFICIENT MICE</b> Smith-Roe SL, Crain SS, Palama BK, Buermeyer AB



**TUESDAY, OCTOBER 5, 2004**

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7:00 AM – 12:30 PM

**Registration**  
*Ballroom Foyer*

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7:00 AM – 8:30 AM

**Breakfast Meetings**

EMS Executive Board  
*Duquesne Room*

DNA Repair Special Interest Group  
*Kings Garden North*

Hollaender Committee  
*Le Bateau Room*

Membership and Professional Development Committee  
*Kings Garden South*

Public Relations and Communications Committee  
*Brigade Room*



**TUESDAY, OCTOBER 5, 2004**

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8:30 AM – 9:30 AM

**Keynote Lecture**

*Ballroom 3*

Elizabeth Blackburn  
University of California, San Francisco

**Telomeres and Genomic Stability:  
When Ends Don't Meet**





**TUESDAY, OCTOBER 5, 2004**

9:30 AM – 12:30 PM

**Exhibits  
and  
Poster Session 3:  
Exposure Detection and Toxicity**

*Ballroom 1*

Odd numbered posters to be attended from 9:30 AM – 11:00 AM

Even numbered posters to be attended from 11:00 AM – 12:30 PM

Poster      Abstract

- |   |    |  |
|---|----|--|
| 1 | 5  | <b>INTERPRETATION OF INCREASES IN MICRONUCLEI IN CHO CELLS IN THE PRESENCE OF APOPTOSIS</b><br>Armstrong MJ, Cunningham CL, Fleckenstein CM, Greenwood SK, Hill RB, McKnight CG, Galloway SM         |
| 2 | 11 | <b>DAMAGE-RECOVERY HOT SPOTS IDENTIFIED BY GENOMIC PHENOTYPING AND LOCALIZATION MAPPING</b><br>Begley TJ, Rosenbach AS, Ideker T, Samson LD  |
| 3 | 21 | <b>INDUCED CYTOTOXICITY AND MUTAGENICITY OF HUMAN LYMPHO-BLASTOID CELLS (TK6) EXPOSED TO STAVUDINE, LAMIVUDINE AND STAVUDINE-LAMIVUDINE</b><br>Carter MM, Cook Jr DL, Torres S, Walker DM, Walker VE |
| 4 | 23 | <b>NITROREDUCTASE AND N-ACETYL-TRANSFERASE ACTIVITIES IN THE MUTA<sup>TM</sup>MOUSE</b><br>Chen G, White PA, Gingerich J, Soper L, Douglas GR  |
| 5 | 24 | <b>THE MUTAGENIC HAZARDS OF AQUATIC SEDIMENTS: A REVIEW</b><br>Chen GC, White PAW  |





## TUESDAY, OCTOBER 5, 2004

Poster	Abstract	
6	28	<b>ANALYSIS OF RADIATION-INDUCED MICRONUCLEI INVOLVING CHROMOSOME 1 AND 4 BY FISH TECHNIQUE</b> Chung HW, Kim TY, Cho YH, Kim SY, Ha SW
7	33	<b>DEVELOPMENT OF A MICRONUCLEUS ASSAY IN THE EPIDERM™ HUMAN 3D SKIN MODEL</b> Curren RD, Mun GC, Gibson DP, Aardema MJ
8	36	<b>FLOW CYTOMETRIC ANALYSIS OF MICRONUCLEATED RETICULOCYTES IN MICE AFTER MULTIPLE BLOOD SAMPLING</b> De Boeck M, van der Leede BM, De Smedt A, Steemans M, Van Goethem F, Lampo A, Vanparys P
9	37	<b>HUMAN BLOOD MICRONUCLEUS SCORING: APPLICATIONS IN SICKLE CELL DISEASE</b> Dertinger S, Ware R, Howard T, Torous D, Avlasevich S, Tometsko C
10	38	<b>POST-BIRTH MITOCHONDRIAL TOXICITY OF <i>IN UTERO</i> NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR (NRTI) EXPOSURES IN A PRIMATE MODEL</b> Divi RL, Leonard SL, Nagashima K, Harbaugh SW, Harbaugh JW, St. Claire MC, Poirier MC
11	40	<b>FREQUENCY OF MICRONUCLEATED ERYTHROID CELLS IN AZT-TREATED TK-PROFICIENT AND TK-DEFICIENT MICE</b> Dobrovolsky VN, Heflich RH, McGarrity LJ, VonTungeln LS, Beland FA
12	49	<b>AN <i>IN VIVO</i>-<i>IN VITRO</i> STUDY PROTOCOL FOR THE CONDUCT OF THE RAT PERIPHERAL BLOOD LYMPHOCYTE (RPBL) CHROMOSOME ABERRATIONS (CA) ASSAY</b> Erexson GL, Farabaugh CS, Yung KM, Stojhovic GP
13	51	<b>FACTORS AFFECTING SPONTANEOUS MUTANT FREQUENCY IN THE MICROTITRE MOUSE LYMPHOMA CELL THYMIDINE KINASE LOCUS ASSAY (MLA)</b> Fellows M, Clements J, Shaw K, Thompson A, O'Donovan M



## TUESDAY, OCTOBER 5, 2004

Poster	Abstract	
14	55	<b>OPTIMIZATION AND APPLICATION OF THE <i>IN VITRO</i> MICRONUCLEUS ASSAY FOR THE EVALUATION OF CIGARETTE SMOKE CONDENSATE</b> Fowler KW, Morgan WT, Doolittle DJ, Bombick BR
15	57	<b>AN IMPROVED, SEMI-AUTOMATED METHOD FOR MEASURING <i>HPRT/HPRT</i> GENE MUTATIONS IN MOUSE AND HUMAN LYMPHOCYTES</b> Galbert LA, Guerin AT, Carmical JR, Herring SM, Abdel-Rahman SZ, Ward JB, Wickliffe JK
16	58	<b>CYTOCHROME P4501A1 (CYP1A1) INDUCTION IS SUPPRESSED BY COAL DUST EXPOSURE IN THE OVINE LUNG</b> Ghanem M, Hubbs AF, Kashon M, Weissman D, Porter D, Vallyathan V, Batelli LA, Nath J
17	59	<b>TESTING THE SPECIFICITY OF THE <i>IN VIVO</i> RODENT SKIN MICRONUCLEUS ASSAY AS DEVELOPED BY NISHIKAWA ET AL., FOR CHEMICALS NEGATIVE IN DERMAL CARCINOGENESIS ASSAYS</b> Gibson DP, Krsmanovic LS, Aardema MJ
18	67	<b>GENOTOXICITY OF AIR PARTICULATE MATTER FROM MEXICO CITY, MEXICO, CONTAINING HIGH LEVELS OF METALS</b> Gutiérrez ME, Roubicek DA, Sordo M, Cebrián ME, DeVizcaya A, Ostrosky P
19	81	<b>DEVELOPMENT OF MICROWELL SYRIAN HAMSTER EMBRYO (SHE) CELL MICRONUCLEUS (MN) ASSAY</b> Hu T, Gibson DP, Aardema MJ
20	83	<b>MULTI-LABORATORY VALIDATION OF A FLOW CYTOMETRIC MICRONUCLEUS ASSAY: METHOTREXATE RESULTS: ADDITIONAL RAT PERIPHERAL BLOOD ANALYSIS IN STANDARD AND NON-STANDARD VEHICLES</b> Hynes GM, Lynch AM, Torous DK



## TUESDAY, OCTOBER 5, 2004

Poster	Abstract	
21	84	<b>AN AUTOMATED APPROACH TO COMET ASSAY ANALYSIS</b> Jackman SM
22	93	<b>EVALUATION OF THE PERFORMANCE OF A SMALL BATTERY OF <i>IN VITRO</i> TESTS IN DETECTING RODENT AND HUMAN CARCINOGENS</b> Kirkland DJ, Aardema MJ, Henderson L, Müller L
23	105	<b>EVALUATION OF CELLOMICS MICRONUCLEUS BIOAPPLICATION - AN AUTOMATED SCORING SYSTEM</b> Lu S, Khoh-Reiter S, Lee M, Jessen B, Stevens G
24	107	<b>INTEGRATION OF CHROMOSOMAL DAMAGE ASSESSMENT WITH ROUTINE TOXICITY TESTING USING A FLOW CYTOMETRIC ASSAY FOR MICRONUCLEATED RETICULOCYTES</b> MacGregor JT, Bishop ME, Dertinger S, McNamee J, Harper S, Hotchkiss C, Hayashi M
25	111	<b>ACB-PCR MEASUREMENT OF RARE K-RAS CODON 12 MUTATIONS IN LIVER OF N-HYDROXY-2-ACETYLAMINOFLUORENE-TREATED BIG BLUE RATS®</b> McKinzie PB, Chen T, Heflich RH, Parsons BL
26	126	<b>MICROARRAY DATA INFORMATION DEPENDS ON VALIDATION CRITERIA: HOW LOW OR HIGH STRINGENCY METHODS LEADS TO DIFFERENCES IN PROBE LEVEL INFORMATION</b> N'jai AU, Means JC
27	130	<b>CLASTOGENICITY AND MUTATIONAL SPECIFICITY OF AN N-HYDROXY METABOLITE OF AMINOPHENYL-NORHARMAN</b> Ohe T, Mizuno T, Totsuka Y, Takamura T, Oda Y, Wakabayashi K



## TUESDAY, OCTOBER 5, 2004

Poster	Abstract	
28	133	<b>VALIDATION OF A MODIFICATION OF THE SYRIAN HAMSTER EMBRYO (SHE) CELL TRANSFORMATION ASSAY AT PH 6.7 USING DIFFERENT CELL ISOLATES AND THE RODENT CARCINOGEN 2,4-DIAMINOTOLUENE</b> Pant K, Reece JD, Gibson DP, Aardema M, San R
29	135	<b>THE GENOTOXICITY OF THE DRINKING WATER DISINFECTION BY-PRODUCT IODOACETIC ACID IS REDUCED BY MODULATORS OF OXIDATIVE STRESS</b> Plewa MJ, Cemeli E, Anderson D, Wagner ED
30	138	<b>SEMI-QUANTITATION OF POLYCYCLIC AROMATIC HYDROCARBON (PAH)-DNA ADDUCTS IN HUMAN CERVIX BY IMMUNO-HISTOCHEMISTRY AND THE AUTOMATED CELLULAR IMAGING SYSTEM (ACIS)</b> Pratt MM, Castle PE, Schiffman M, Glass AG, Scott DR, Rush BB, Poirier MC
31	146	<b>RADIATION-INDUCED CHROMOSOMAL DAMAGE IN TRANSGENIC MICE WITH VARIOUS P53 GENOTYPES</b> Rupa DS, Rausch L, Lin S, Bakke J, Orduna J, Chang P
32	147	<b>USING THE TREATED ACID MINE WATER FOR THE RAINBOW TROUT PRODUCTION AT DOGWOOD LAKE IN WEST VIRGINIA</b> Salem M, Semmens KJ, Tierny A, Viadero R, Nath J
33	176	<b>SIMPLE TARGET DETECTION FROM MRNA BY ROLLING CIRCLE AMPLIFICATION (RCA) IN SOLUTION</b> Thomas RA, Itoh S, Petibone DM, Shi H, Tucker JD
34	179	<b>FLOW CYTOMETRIC ANALYSIS OF MICRONUCLEI IN RODENT AND HUMAN BLOOD USING A NEWLY DEVELOPED THREE-COLOR LABELING METHOD</b> Torous DK, Dertinger SD, MacGregor JT, Bishop ME, Ponten I, Chen Y, Tometsko CR



## TUESDAY, OCTOBER 5, 2004

Poster	Abstract	
35	194	<b>MUTATIONAL AND TRANSCRIPTIONAL RESPONSE OF SALMONELLA TO MX: CORRELATION OF MUTATIONAL DOSE RESPONSE TO CHANGES IN GENE EXPRESSION</b> Ward WO, Porwollik S, Warren SH, McClelland M, DeMarini DM
36	197	<b>ZIDOVUDINE IS THE MUTAGENIC COMPONENT OF COMBINATION ANTIRETROVIRAL DRUG THERAPY ADMINISTERED TO CD-1 MOUSE PUPS IN A TREATMENT REGIMEN SIMILAR TO THAT USED IN HUMANS FOR PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV</b> Witt KL, Tice RR, Wolfe GW, Bishop JB
37	199	<b>AN ASSESSMENT OF CUMENE HYDROPEROXIDE IN THE <i>IN VIVO</i> COMET ASSAY IN MOUSE SKIN</b> Wolfreys AM, Clay P, Elliott B, Jones E
38	202	<b>THE SCGE STUDY OF DNA DAMAGE ON GERM CELL OF RAT INDUCED BY NITROAROMATIC COMPOUNDS</b> Xu J
39	203	<b>COMPREHENSIVE EVALUATION OF SIX COMMERCIALY AVAILABLE MICROARRAYS</b> Yauk CL, Berndt ML, Williams A, Douglas GR
40	205	<b>ANTIMUTAGENIC ACTIVITY OF SPEARMINT (<i>MENTHA SPICATA</i> L.)</b> Yu TW, Dashwood RH, Xu M
41	2	<b>ROLE OF DNA REPAIR PROTEINS IN THE FORMATION OF ANAPHASE BRIDGES</b> Acilan C, Gollin SM, Saunders WS
42	19	<b>DEVELOPMENT OF A RAPID SCREEN FOR ANEUGENIC AND CLASTOGENIC AGENTS USING P53 AS A MARKER OF GENOTOXICITY</b> Camacho H, Roy SK, Eastmond DA



## TUESDAY, OCTOBER 5, 2004

Poster	Abstract	
43	25	<b>CYTOGENETIC AND OXIDATIVE DAMAGE FROM ACUTE OZONE EXPOSURE</b> Chen CL, Arjomandi M, Balmes JR, Tager IB, Shigenaga MK, Kadze M, Holland NT
44	53	<b>ARSENIC INDUCED MUTATION DETECTED <i>IN SITU</i> IN MOUSE SKIN AND LUNG</b> Fischer JM, Larson JS, Robbins S, Stinger SL, Stambrook PJ, Stringer JR
45	106	<b>CIGARETTE SMOKE INDUCES ANAPHASE BRIDGES AND CHROMOSOMAL INSTABILITY IN NORMAL CELLS</b> Luo LZ, Werner KM, Gollin SM, Saunders WS
46	119	<b><i>IN VITRO</i> EVALUATION OF GLYPHOSATE-INDUCED DNA DAMAGE IN FIBROSARCOMA CELLS HT1080 AND CHINESE HAMSTER OVARY (CHO) CELLS</b> Monroy CM, Cortes AC, Sicard DM, Plewa MJ, Groot H
47	120	<b>DEVELOPMENT OF FTC ANTIOXIDANT MICROPLATE ASSAY AND THE ISOLATION OF ANTIOXIDANTS FROM AGRICULTURAL BY-PRODUCTS</b> Muellner MG, Rundell MS, Vaughn SF, Berhow MA, Wagner ED, Plewa MJ
48	122	<b>BIOMARKERS OF OXIDATIVE STRESS ARE ELEVATED AMONG AGRICULTURAL WORKERS</b> Muniz J, Kisby GE, Lasarev M, Koshy M, Kow YW, Li X, McCauley L
49	141	<b>ANTHRACENE TRANSFORMATION BY MARINE HALOPHILIC MICROORGANISMS</b> Raghavan TM



**TUESDAY, OCTOBER 5, 2004**

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12:30 PM – 5:30 PM

**Free afternoon**

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**Fall Foliage Cruise and Andy Warhol Museum Tour**

Ticket Required

Meet in Hotel Lobby

12:45 PM

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5:30 PM – 7:00 PM

**Business Meeting  
and  
EMS Student Awards**

*Ballroom 3*

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7:00 PM – 10:00 PM

**Banquet and EMS Awards**

*Ballroom 1*



## WEDNESDAY, OCTOBER 6, 2004

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7:00 AM – 1:00 PM

**Registration**  
*Ballroom Foyer*

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7:00 – 8:30 AM

### **Breakfast Meetings**

2005 Program Committee (Second Meeting)  
*Brigade Room*



Education and Student Affairs Committee  
*Liberty Room*



Genomics Special Interest Group  
*Duquesne Room*

New Technologies Special Interest Group  
*Benedum Room*







**WEDNESDAY, OCTOBER 6, 2004**

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8:30 AM – 12:00 PM

**Multiple Roles for DNA Mismatch Repair Symposium**

*Ballroom 2*

Chairpersons

Thomas A. Kunkel

National Institute of Environmental Health Sciences

and

Margaret Hsieh

National Institute of Diabetes and Digestive and Kidney Diseases

8:30 AM – 8:45 AM	Introduction
8:45 AM – 9:15 AM	Mismatch Repair Role in DNA Damage Responses <i>Baskaran Rajasekaran, University of Pittsburgh</i>
9:15 AM – 9:45 AM	Mismatch Repair and Mutagenesis Due to Oxidative Stress <i>Margherita Bignami, Istituto Superiore di Sanita</i>
9:45 AM – 10:15 AM	Function of Mismatch Repair Proteins in Meiosis <i>Rhonda H. Borts, University of Leicester</i>
10:15 AM – 10:30 AM	Break
10:30 AM – 11:00 AM	Mouse Models of Mismatch Repair <i>Winfried Edelmann, Albert Einstein College of Medicine</i>
11:00 AM – 11:30 AM	Studies of the Early Steps in Mismatch Repair <i>John B. Hayes, Oregon State University</i>
11:30 AM – 12:00 PM	The Structural Biology of Mismatch Repair <i>Wei Yang, National Institute of Diabetes and Digestive and Kidney Diseases</i>



**WEDNESDAY, OCTOBER 6, 2004**

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8:30 AM – 12:00 PM

**Platform Session 3**  
**Exposure, Detection and Toxicity**

*Ballroom 3*

Chairpersons  
David DeMarini, U.S. EPA  
and  
Carol L. Yauk, Health Canada

Abstract

- |         |            |  |
|---------|------------|--|
| 8:30 AM | <b>200</b> | <b>TRANSCRIPTOME PROFILING OF DOSE RESPONSE IN HUMAN LYMPHOBLASTOID CELLS EXPOSED TO IONIZING RADIATION</b><br>Wyrobek AJ, Coleman MA, Krishnan K, Marchetti F, Nelson D, Tucker JD, Futado M, Hill F, Manohar C |
| 8:45 AM | <b>92</b>  | <b>TRANSCRIPTIONAL RESPONSE TO DIESEL PARTICULATE EXTRACT (SRM1975) AND MODULATION BY CHLOROPHYLLIN IN NORMAL HUMAN MAMMARY EPITHELIAL CELLS USING DNA MICROARRAYS</b><br>Keshava C, Whipkey DL, Weston A        |
| 9:00 AM | <b>153</b> | <b>DOSE RESPONSE FOR GENE EXPRESSION IN THE LIVERS OF BIG BLUE® RATS TREATED WITH A GENOTOXIC AND NON-GENOTOXIC CARCINOGEN</b><br>Seidel SD, Kan HL, Stott WT, Sparrow BR, Gollapudi BB                          |
| 9:15 AM | <b>121</b> | <b>INTRA- AND INTER-LABORATORY VARIABILITY DOES NOT PRECLUDE IDENTIFICATION OF HYDROXYUREA MOLECULAR SIGNATURE</b><br>Muller A, Boitier E, Hu T, Carr G, Lefevre AC, Aardema M, Thybaud V                        |



## WEDNESDAY, OCTOBER 6, 2004

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### Abstract

- 9:30 AM     **1**     **PROTEIN ARRAY METHOD FOR ASSESSING  
*IN VITRO* BIOMATERIAL-INDUCED  
CYTOKINE EXPRESSION**  
Abu-Shakra A, Li Y, Schutte R, Reichert WM
- 9:45 AM     **169**     **CYTOGENETIC ANALYSIS USING  
FLUORESCENCE *IN SITU* HYBRIDIZATION  
(FISH) TO EVALUATE THE IMPACT OF  
ENVIRONMENTAL EXPOSURE TO PAHS**  
Sram RJ, Beskid O, Binkova B, Chvatalova I, Rossner  
P, Smerhovsky Z
- 10:00 AM     **173**     **NON-LINEAR DOSE RESPONSE TO LOW  
DOSES OF X-RADIATION**  
Sykes PJ, Cormack J, Domel RU, Burch WM,  
Swinburne SJ, Morley AA, Hooker AM
- 10:15 AM     Break
- 10:30 AM     **48**     **PHIP-INDUCED CHROMOSOMAL  
INSTABILITY: A PROSTATE CANCER CASE-  
CONTROL STUDY**  
El-Zein R, Etzel C, Lopez M, Gu Y, Spitz M, Strom S
- 10:45 AM     **180**     **RELATIONSHIPS BETWEEN EXPOSURE  
CONCENTRATION, EXPOSURE DURATION,  
LEVELS OF DNA INCORPORATION OF  
DRUGS AND MUTAGENIC EFFECTS IN  
HUMAN LYMPHOBLASTOID TK6 CELLS  
EXPOSED *IN VITRO* TO AZT, 3TC, AND AZT-  
3TC**  
Torres SM, Walker VE, Olivero OA, Carter M, Cook  
D, Poirier M, Walker DM
- 11:00 AM     **110**     **EVALUATION OF MUTAGENICITY IN BIG  
BLUE (BB) MICE ADMINISTERED  
ACRYLAMIDE (AA) AND GLYCIDAMIDE (GA)  
IN DRINKING WATER FOR 4 WEEKS**  
Manjanatha MG, Aidoo A, Shelton SD, Bishop ME,  
McDaniel LP, Doerge DR



## WEDNESDAY, OCTOBER 6, 2004

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### Abstract

- 11:15 AM    **178**    **CYTOGENETIC BIOMONITORING:  
MICRONUCLEI FORMATION AND CHANGES  
IN ANTIOXIDANTS IN FARM WORKERS  
OCCUPATIONALLY EXPOSED TO LOW  
LEVELS OF PESTICIDES IN KENTUCKY**  
Tope AM, Bebe FN, Panemangalore M
- 11:30 AM    **99**    **RADIATION-INDUCED GENOMIC DNA  
METHYLATION CHANGES – THE  
BIOLOGICAL SIGNIFICANCE AND POSSIBLE  
MECHANISMS**  
Kovalchuk OV, Raiche JN, Slovack MK, Pogribny IP
- 11:45 AM    **10**    **BIOMARKERS OF SUSCEPTIBILITY,  
OXIDATIVE STRESS, AND BIOLOGICAL  
EFFECT AFTER ACUTE OZONE EXPOSURE IN  
HUMANS**  
Bastaki M, Chen CL, Manzanillo P, Beckman K, Tager  
IB, Balmes JR, Holland NT
-



**WEDNESDAY, OCTOBER 6, 2004**

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1:00 PM – 4:30 PM

**DNA Helicases, Mutation, Cancer and Aging Symposium**

*Ballroom 2*

**Chairpersons**

Raymond J. Monnat, University of Washington  
and  
Lawrence A. Loeb, University of Washington

1:00 PM – 1:10 PM	Introduction
1:10 PM – 1:40 PM	Human Diseases with Early Aging Are Defective in DNA Repair <i>Vilhelm Bohr, National Institute on Aging</i>
1:40 PM – 2:10 PM	Interactions of Bypass Polymerases, p53 and Recombination in Maintaining Genome Integrity <i>James Cleaver, University of California, San Francisco</i>
2:10 PM – 2:40 PM	Mutagenesis, Genetic Instability and Clonal Evolution in Human Cell Lineages <i>Barry A. Finette, University of Vermont</i>
2:40 PM – 3:10 PM	Werner Syndrome, Polymorphisms and Cancer <i>Lawrence A. Loeb, University of Washington</i>
3:10 PM – 3:30 PM	Break
3:30 PM – 4:00 PM	Werner Syndrome Protein Function and Disease Pathogenesis <i>Raymond J. Monnat, University of Washington</i>
4:00 PM – 4:30 PM	Loss of Genomic Integrity in Early Carcinogenesis <i>Thea Tlsty, University of California, San Francisco</i>



**WEDNESDAY, OCTOBER 6, 2004**

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1:00 PM – 4:30 PM

**Mitochondria at the Crossroads  
of Life and Death Decisions Symposium**

*Ballroom 3*

Chairpersons  
Susan P. LeDoux  
University of Alabama, Mobile  
and  
Bennett Van Houten  
National Institute of Environmental Health Sciences

1:00 PM – 1:10 PM	Introduction
1:10 PM – 1:40 PM	Targeting DNA Repair Enzymes to the Mitochondria <i>Susan P. LeDoux, University of Alabama, Mobile</i>
1:40 PM – 2:10 PM	Consequences of Iron-Mediated Mitochondrial DNA Damage <i>Bennett Van Houten, National Institute of Environmental Health Sciences</i>
2:10 PM – 2:40 PM	Molecular Genetics of Human Mitochondrial Respiratory Chain Defects <i>Eric A. Shoubridge, McGill University</i>
2:40 PM – 3:10 PM	Mitochondrial Uptake of AP-Endonuclease A Base Excision Repair Enzyme <i>Sankar Mitra, University of Texas, Galveston</i>
3:10 PM – 3:30 PM	Break



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## WEDNESDAY, OCTOBER 6, 2004

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3:30 PM – 4:00 PM

Consequences of Mutations in DNA  
Polymerase Gamma

*William C. Copeland, National Institute  
of Environmental Health Sciences*

4:00 PM – 4:30 PM

p53 Mediated Apoptosis Through Direct  
Interactions with the Mitochondria

*Ute Moll, State University of New York at  
Stony Brook*

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**WEDNESDAY, OCTOBER 6, 2004**

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4:30 PM – 5:30 PM

**Keynote Lecture**

*Ballroom 3*

Douglas Lauffenburger  
Massachusetts Institute of Technology

**Systems Biology Approach to  
Cell Phenotypic Decision Processes**

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5:30 PM – 6:30 PM

**EMS Council Meeting**

*Duquesne Room*

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**EXHIBIT HOURS**

Sunday	October 3, 2004	5:30 PM – 7:30 PM
Monday	October 4, 2004	5:30 PM – 7:30 PM
Tuesday	October 5, 2004	9:30 AM – 12:30 PM





## EMS EXHIBITORS

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15235 Shady Grove Road, Suite 303, Rockville, MD 20850  
Tel: 301-926-4900 Fax: 301-926-8891

**Booth 5**

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### **Applied Imaging Corporation**

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Applied Imaging is the world leader in Automated Imaging and Image Analysis for the characterization of molecular markers in genetics and pathology laboratories.

### **BioReliance**

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

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**Booth 15**

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**MetaSystems**

32 Hammond Road, Belmont, MA 02478, United States

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E-Mail: [metasystems\\_us@man.com](mailto:metasystems_us@man.com)Web Site: [www.metasystems.org](http://www.metasystems.org)**Booth 14**

MetaSystems provides genetic imaging and high-throughput automatic slide scanning systems for spot counting, Comet assay, micronuclei, metaphase search, tissue array analysis, rare cell detection, automatic karyotyping, FISH imaging, CGH, mFISH and color banding analysis as well as specialty DNA probes.

**Moltox**

157 Industrial Park Drive, PO Box 1189, Boone NC 28607, United States

Tel: 828-264-9099

Fax: 828-264-0103

Email: [sales@moltox.com](mailto:sales@moltox.com)**Booth 13**

MOLTX products include most materials required for Genetic Toxicology testing; e.g., bacteriological media, ControlChem chemical packages, STDiscs, ECDiscs, S9 preparations and activation mix components. MOLTOX prepared bacteriological media are custom formulated and meet or exceed NCCLS criteria. MOLTOX S9 preparations include those derived from laboratory rodent, dog, monkey, and human liver - standard as well as custom tissues, buffers and inducing agents are available.

**NCI, Division of Cancer Biology****Booth 8**

Division of Extramural Activities, 6130 Executive Blvd., Suite 500  
Rockville, MD 20892, United States  
Tel: 301-496-8636 Fax: 301-496-8656  
E-mail: [tarnovish@mail.nih.gov](mailto:tarnovish@mail.nih.gov)

The NCI Models of Human Cancer C (NCIHCC) is a collaborative program designed to derive and characterize mouse models, and to generate resources, information and innovative approaches to the application of mouse models in cancer research.

**Novus Biologicals Inc.****Booth 6**

P.O. Box 802, Littleton, CO 80160, United States  
Tel: 303-730-1950 Fax: 303-730-1966  
E-mail: [novus@novusbio.com](mailto:novus@novusbio.com)  
Web Site: [www.novusbio.com](http://www.novusbio.com)

**Perceptive Instruments****Booth 7**

Blis Meadow Business Centre, Steeple Bumpstead, Haverhill,  
Suffok CB9 7BN, United Kingdom  
Tel: 44 1 440 730 773 Fax: 44 1 440 730 630

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 will be presenting, for the first time in the US, our Ames Study Manager program for conducting and reporting Ames test studies according to regulatory guidelines, e.g. OECD471, ICH S2A. It is also designed to be compliant with FDA 21 CFR Part 11 Final Rule on Electronic Records & Electronic Signatures.

**Wiley****Booth 16**

111 River Street, Hoboken NJ 07030, United States  
Tel: 201-748-6758 Fax: 201-748-6617  
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### **Meeting Room Locations**

Our meeting and function rooms are located on different levels of the hotel. The following list shows the location of the rooms.

#### **Lobby**

Benedum Room  
Duquesne Room  
Liberty Room

#### **Mezzanine**

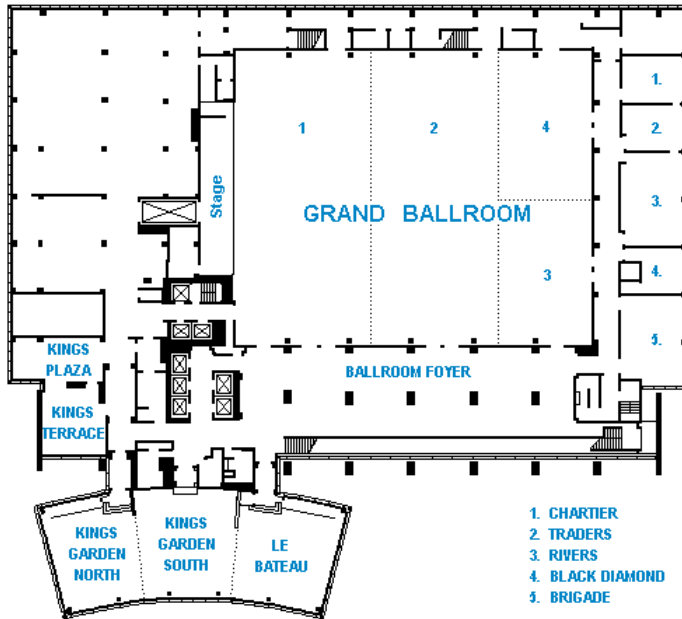
Ballrooms 1, 2, 3  
Ballroom Foyer  
Brigade Room  
Kings Garden North  
Kings Garden South  
Le Bateau Room

## **ON-SITE REGISTRATION FEES**

<b>EMS Meeting</b>	<b>Registration</b>	<b>Tour &amp;Registration</b>
Member	\$475	\$540
Non-Member	\$625	\$690
Post-Doctoral	\$325	\$390
Graduate or Undergraduate Student	\$225	\$290
Guest		\$225
Saturday Forum Only	\$175	



### HILTON PITTSBURGH - MEZZANINE LEVEL



### HILTON PITTSBURGH - LOBBY LEVEL

